

FIGURE 1

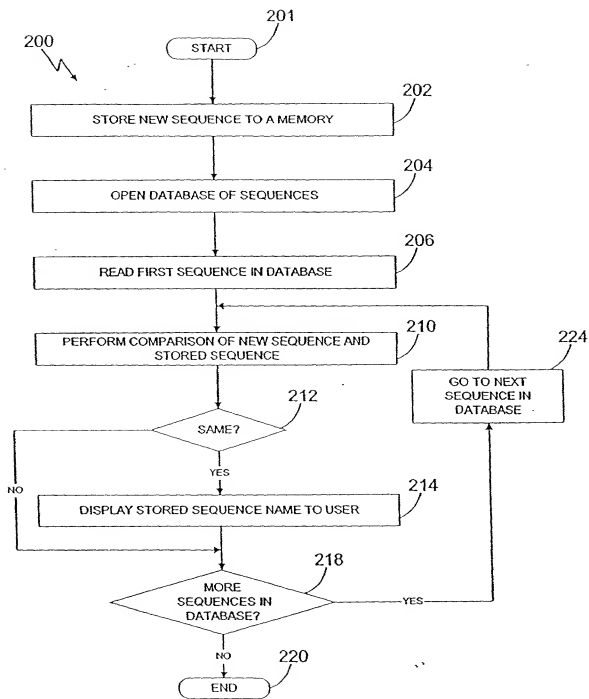


FIGURE 2

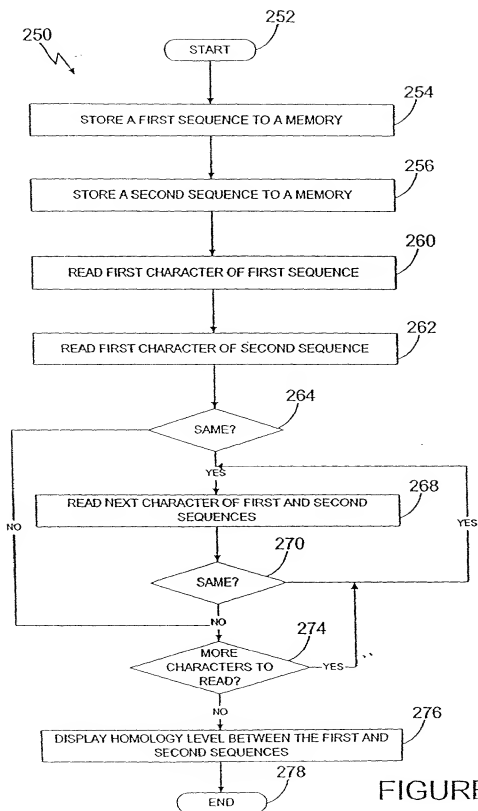
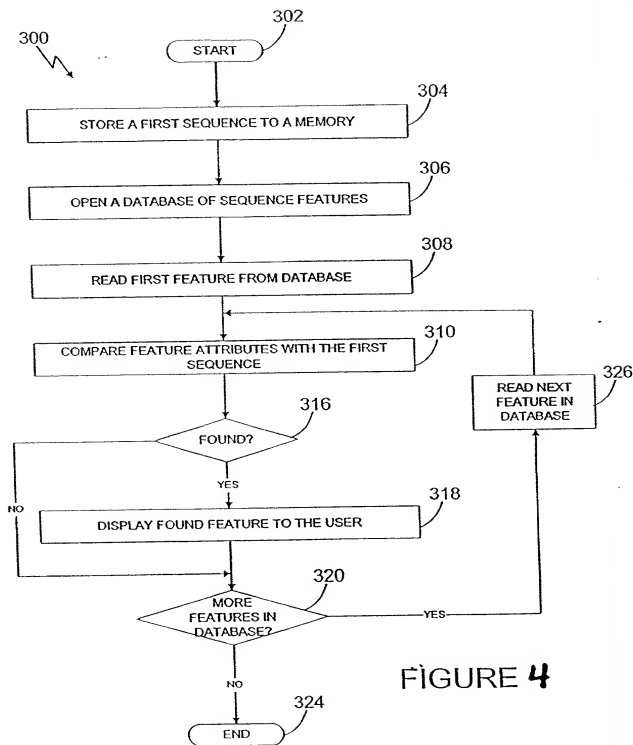


FIGURE 3



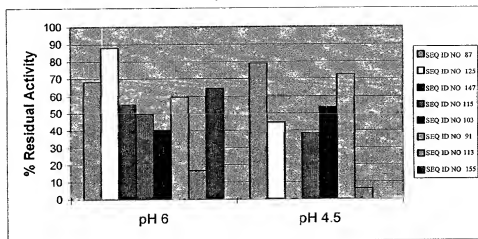


Figure 5: Residual activity of various amylases following heating to 90°C for 10 min.

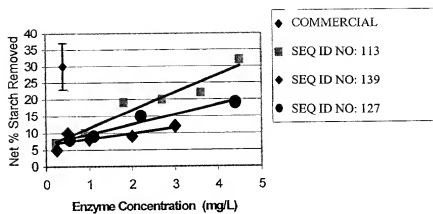


Figure 6. Net percent starch removed vs. enzyme concentration in ADW wash test with bleach and chelators

Figure 7: Activity of parental amylases at pH 8, 40°C (black bars) in ADW formulation at 55°C (gray bars). Values are the average of 384 wells with error bars representing the standard deviation.

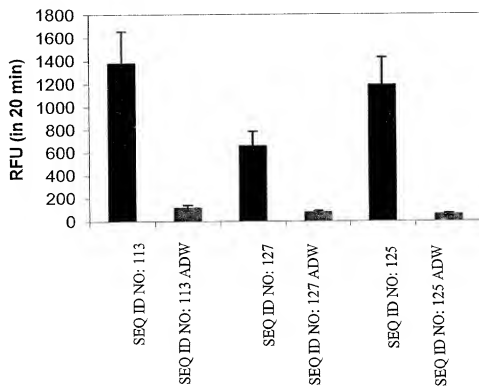
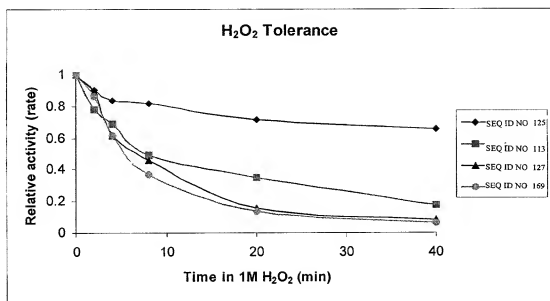


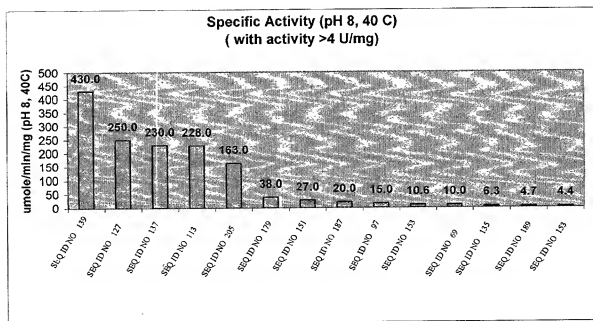
Figure 8:



201220-27818001

Figure 9: A graph of the pH and temperature data for a selection of the amylases characterized: a) pH 8 and 40°C b) pH 10 and 50°C.

a)



b)

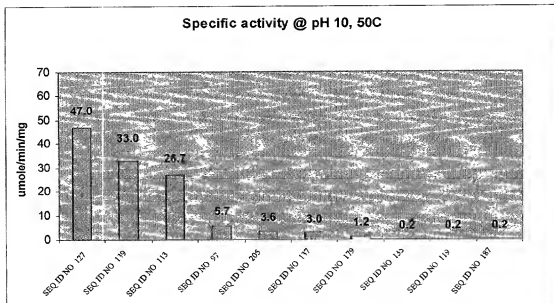


Figure 10: Alignments of the genes proposed to be used in reassembly

```

1
SEQ ID NO.:113 (1) ---AANLNTLNYEYVYVNDQOHKRLCNDSAYLAERHITAVLIPCHYTS-QADVYVGAADLYVSETHLEGTVR
SEQ ID NO.:127 (1) -QANTAPVNTMAYVYVNDQOHKRLCNDSAYLAERHITAVLIPCHYTS-QADVYVGAADLYVSETHLEGTVR
SEQ ID NO.:115 (1) AKYSELEQVYVNDQOHKRLCNDSAYLAERHITAVLIPCHYTS-QADVYVGAADLYVSETHLEGTVR

81
SEQ ID NO.:113 (76) KRYKTEGELQSAEISLHSDRIYVYVNDQOHKRLCNDSAYLAERHITAVLIPCHYTS-QADVYVGAADLYVSETHLEGTVR
SEQ ID NO.:127 (79) KRYKTEGELQSAEISLHSDRIYVYVNDQOHKRLCNDSAYLAERHITAVLIPCHYTS-QADVYVGAADLYVSETHLEGTVR
SEQ ID NO.:115 (81) KRYKTEGELQSAEISLHSDRIYVYVNDQOHKRLCNDSAYLAERHITAVLIPCHYTS-QADVYVGAADLYVSETHLEGTVR

161
SEQ ID NO.:113 (156) WNNYHFDGTWDESEKLNRYKFGQ--KANDVEVSEKENGNYDYLMYADIDYDHPVAAEKKRWGTYSANLQMGFELSA
SEQ ID NO.:127 (159) WNNYHFDGTWDESEKLNRYKFGQ--KANDVEVSEKENGNYDYLMYADIDYDHPVAAEKKRWGTYSANLQMGFELSA
SEQ ID NO.:115 (150) ---NYSDECTFGGFPMDID:VFFKQYVLAASFS-----YAAVPSIGIGAWSEY

241
SEQ ID NO.:113 (234) WNNYHFDGTWDESEKLNRYKFGQ--KANDVEVSEKENGNYDYLMYADIDYDHPVAAEKKRWGTYSANLQMGFELSA
SEQ ID NO.:127 (239) WNNYHFDGTWDESEKLNRYKFGQ--KANDVEVSEKENGNYDYLMYADIDYDHPVAAEKKRWGTYSANLQMGFELSA
SEQ ID NO.:115 (200) WNNYHFDGTWDESEKLNRYKFGQ--KANDVEVSEKENGNYDYLMYADIDYDHPVAAEKKRWGTYSANLQMGFELSA

321
SEQ ID NO.:113 (312) WNNYHFDGTWDESEKLNRYKFGQ--KANDVEVSEKENGNYDYLMYADIDYDHPVAAEKKRWGTYSANLQMGFELSA
SEQ ID NO.:127 (317) WNNYHFDGTWDESEKLNRYKFGQ--KANDVEVSEKENGNYDYLMYADIDYDHPVAAEKKRWGTYSANLQMGFELSA
SEQ ID NO.:115 (272) WNNYHFDGTWDESEKLNRYKFGQ--KANDVEVSEKENGNYDYLMYADIDYDHPVAAEKKRWGTYSANLQMGFELSA

401
SEQ ID NO.:113 (390) KARKQYVYVNDQOHKRLCNDSAYLAERHITAVLIPCHYTS-QADVYVGAADLYVSETHLEGTVR
SEQ ID NO.:127 (392) KARKQYVYVNDQOHKRLCNDSAYLAERHITAVLIPCHYTS-QADVYVGAADLYVSETHLEGTVR
SEQ ID NO.:115 (331) KARKQYVYVNDQOHKRLCNDSAYLAERHITAVLIPCHYTS-QADVYVGAADLYVSETHLEGTVR

481
SEQ ID NO.:113 (468) KARKQYVYVNDQOHKRLCNDSAYLAERHITAVLIPCHYTS-QADVYVGAADLYVSETHLEGTVR
SEQ ID NO.:127 (470) KARKQYVYVNDQOHKRLCNDSAYLAERHITAVLIPCHYTS-QADVYVGAADLYVSETHLEGTVR
SEQ ID NO.:115 (410) KARKQYVYVNDQOHKRLCNDSAYLAERHITAVLIPCHYTS-QADVYVGAADLYVSETHLEGTVR

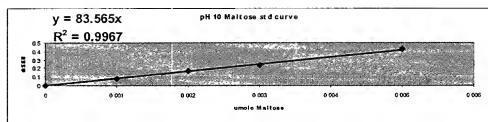
561
SEQ ID NO.:113 (485) KARKQYVYVNDQOHKRLCNDSAYLAERHITAVLIPCHYTS-QADVYVGAADLYVSETHLEGTVR
SEQ ID NO.:127 (541) KARKQYVYVNDQOHKRLCNDSAYLAERHITAVLIPCHYTS-QADVYVGAADLYVSETHLEGTVR
SEQ ID NO.:115 (437) KARKQYVYVNDQOHKRLCNDSAYLAERHITAVLIPCHYTS-QADVYVGAADLYVSETHLEGTVR

605

```

20230327

Figure 11: Example Standard Curve of the assay of Example 5.



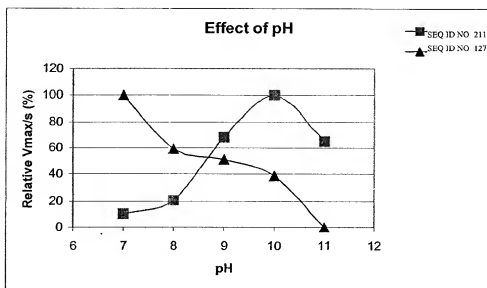


Figure 12: A graph of the pH rate profiles for 2 different amylases. BD7188 is a control; an enzyme that was discovered previously and has a neutral pH optimum. BD7837 is a more recently discovered amylase and has an optimum around pH 10. Pure protein was used in these assays.

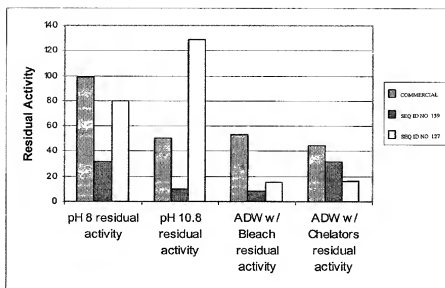


Figure 13: Stability of Diversa amylases vs. a commercial enzyme

Figure 14a:

```

1 50
SEQ ID NO: 81 -----MKK FVALFIT MFF VVSMVAV... ..AQPASAAK
pyro -----MKK FVALLIT MFF VVSMVAV... ..AQPASAAK
pyro2 -----VNKK LTPLLTL LLL FT...VL... ..ASPVSAAK
thermo SESQC TATCT WRVVYMSAKK LLALLFV LAV LVGVAVIP AR VGTAPVSVAGA
thermo2 -----MA RKVLVALL VF LVVLVSVSAVP
Consensus -----SA--

51 100
SEQ ID NO: 81 YS...ELEEGR VIMQAF YNDV PGGGIWW DTI RSKIPWY EA GISAIWIPPA
pyro YS...ELEEGR VIMQAF YNDV PAGGIWW DTI RSKIPWY EA GISAIWIPPA
pyro2 YL...ELEEGR VIMQAF YNDV PGGGIWW DHI RSKIPWY EA GISAIWLPP P
thermo TSRRS LEEGR VIMQAF YNDV PAGGIWW DTI RSKIPWASA GISAIWIPPA
thermo2 AKAET LENG VIMQAF YNDV PGGGIWW DTI AQKIPWASA GISAIWIPPA
Consensus -----LE-GG VIMQAF YNDV P-GGIWW-D-I --KIP-W--A GISAIWIP-
Sense primer

101 150
SEQ ID NO: 81 SKGMS GGYSM GYDPYD FFDL GEYNQKG TIE TRFGSKQELI NMINTAHAY G
pyro SKGMS GGYSM GYDPYD FFDL GEYNQKG TVE TRFGSKQELI NMINTAHAY G
pyro2 SKGMS GGYSM GYDPYD YFDL GEYYQKG TVE TRFGSKQELI RLIQTAHAY G
thermo SKGMS GGYSM GYDPYD FFDL GEYYQKG TVE TRFGSKQELI NMINTAHAY G
thermo2 SKGMS GGYSM GYDPYD FFDL GEYYQKG SVE TRFGSKQELI NMINTAHAY G
Consensus SKGM- G-YSM GYDPYD -FDL GRV- QKG --E TRFGSK-EL- --I-TAH--

151 200
SEQ ID NO: 81 IKVIA DIVIN HRAGGD LEWN PFVGDYT WTD FSKVASG KYT ANYLDFHPN E
pyro IKVIA DIVIN HRAGGD LEWN PFVGDYT WTD FSKVASG KYT ANYLDFHPN E
pyro2 IKVIA DVVIN HRAGGD LEWN PFVGDYT WTD FSKVASG KYT ANYLDFHPN E
thermo IKVIA DIVIN HRAGGD LEWN PFTNSYT WTD FSKVASG KYT ANYLDFHPN E
thermo2 MKVIA DIVIN HRAGGD LEWN PFTNSYT WTD FSKVASG KYT ANYLDFHPN E
Consensus -KVIA D-VIN HRAGGD LEWN PF---YT WTD FSKVASG KYT ANYLDFHPN E

201 250
SEQ ID NO: 81 VKCCD EGTFG GFFDIA HEKS WDQHWLW ASD ESYAAYLR SI GVDWRFDPY V
pyro VKCCD EGTFG GFFDIA HEKS WDQHWLW ASD ESYAAYLR SI GVDWRFDPY V
pyro2 LHCCD EGTFG GFFDIC HHKE WDQYWLW KSN ESYAAYLR SI GFDGWRFPY V
thermo VKCCD EGTFG GFFDIA HEKS WDQYWLW ASD KSYAAYLR SI GVDWRFDPY V
thermo2 LHAGD EGTFG GYFDIC HDKS WDQHWLW ASD ESYAAYLR SI GVDWRFDPY V
Consensus ----D -GTFG G-PDI- H-K- WDQ- WLW -S- -SYAAYLR SI G-D-WRFDPY V

251 300
SEQ ID NO: 81 KGYGA VVVVD WLNWVG GWAV GEYWDIN VDA LLNWAYSS GA KVDFDPLY Y K
pyro KGYGA VVVVD WLNWVG GWAV GEYWDIN VDA LLNWAYSS GA KVDFDPLY Y K
pyro2 KGYGA VVVVD WLNWVG GWAV GEYWDIN VDA LLSWAYES GA KVDFDPLY Y K
thermo KGYGA VVVVD WLKWN . ALAV GEYWDIN VDA LLNWAYSS GA KVDFDPLY Y K
thermo2 KGYAP VVVVN WLNWVG GWAV GEYWDIN VDA LLSWAYDS GA KVDFDPLY Y K
Consensus KGY-- VVV-- WL--W-- --AV GEYWDIN VDA LL-WAY-SGA KVDFDPLY Y K

301 350
SEQ ID NO: 81 MDEAF DNKNI PALVSA LQNG QTVVSRD PFK AVTFVANH DT DIWNKYLA Y
pyro MDEAF DNTNI PALVDA LQNG GTVVSRD PFK AVTFVANH DT DIWNKPYA Y
pyro2 MDEAF DNNNI PALVYA LQNG QTVVSRD PFK AVTFVANH DT DIWNKPYA Y
thermo MDEAF DNKNI PALVSA LQNG QTVVSRD PFK AVTFVANH DT DIWNKPYA Y
thermo2 MDEAF DNNNI PALVDA LQNG GTVVSRD PFK AVTFVANH DT NIWNKPYA Y
Consensus MDEAF DN-NI PALV-AL-NG -TVVSRD PFK AVTFVANH DT -IWNKY-AY

```

Figure 14a (cont.)

	351		400
SEQ ID NO: 81	AFILT YEGQP VIFYRD YEEW LNKDRLN NLI WIHDHLAGGS TSIVYYDSDE		
pyro	AFILT YEGQP VIFYRD YEEW LNKDKLN NLI WIHDHLAGGS TSIVYYDSDE		
pyro2	AFILT YEGQP VIFYRD FEEW LNKDKLI NLI WIHDHLAGGS TTIVYYDNDE		
thermo	AFILT YEGQP VIFYRD YEEW LNKDRLN NLI WIHDHLAGGS TSIVYYDNDE		
thermo2	AFILT YEGQP AIFYRD YEEW LNKDRLN NLI WIHDHLAGGS TDIIYYDSDE		
Consensus	AFILT YEGQP -IFYRD -EEW LNKD-L-NLI WIH--LAGGS T-I-YYD-DE		
	401		450
SEQ ID NO: 81	MIFVRNGYGS KPGLITYINL GSSKVGR WVV VPKFAGAC IH EYTGNLGGWV		
pyro	LIFVRNGDSK RPGLITYINL GSSKVGR WVV VPKFAGAC IH EYTGNLGGWV		
pyro2	LIFVRNGDSR RPGLITYINL SPNVVGR WVV VPKFAGAC IH EYTGNLGGWV		
thermo	LIFVRNGYGN KPGLITYINL GSSKVGR WVV VPKFAGSC IH EYTGNLGGWV		
thermo2	LIFVRNGYGD KPGLITYINL GSSKAGR WVV VPKFAGSC IH EYTGNLGGW I		
Consensus	-IFVRNG--- -PGLITYINL ----GRWVV VPKFAG-CIH EYTGNLGGW-		
	451		486
SEQ ID NO: 81	DKYVY SSGWV YFEAPA YDPA NQQYGY S VMS YCGVG*		
pyro	DKYVE SSGWV YLEAPA YDPA SQQYGYT VMS YCGVG*		
pyro2	DKRVD SSGWV YLEAPP HDPA NGYGY S VMS YCGVG*		
thermo	DKYVG SNGWV YLEAPA HDPA KQYGY S VMS YCGVG*		
thermo2	DKWVD SSGRV YLEAPA HDPA NQYGY S VMS YCGVG*		
Consensus	DK-V- S-G-V Y-EAP- -DPA -G-YGY- VMS YCGVG*		

Antisense primer

201220-2/818001

THE **NEW** **YORK** **PUBLIC** **LIBRARY**

[illegible]

Figure 14b (cont.)

	201		250
SEQ ID NO: 81	VKCCD EGTFG GPPDIA HEKS WDQHWLW ASD ESYAAYLR SI GVDAWRFDY V		
pyro	VKCCD EGTFG GPPDIA HEKE WDQHWLW ASD ESYAAYLR SI GVDAWRFDY V		
SEQ ID NO: 73	LHAGD SGTFG GYPDIC HDKS WDQHWLW ASN ESYAAYLR SI GIDAWRFDY V		
thermo2	LHAGD SGTFG GYPDIC HDKS WDQHWLW ASN ESYAAYLR SI GIDAWRFDY V		
SEQ ID NO: 77	LHAGD SGTFG GYPDIC HDKS WDQYWLW ASQ ESYAAYLR SI GIDAWRFDY V		
SEQ ID NO: 75	LHAGD SGTFG GYPDIC HDKS WDQYWLW ASQ ESYAAYLR SI GIDAWRFDY V		
SEQ ID NO: 83	LHCCD EGTFG GYPDIC HDKS WDQYWLW ASS ESYAAYLR SI GVDAWRFDY V		
SEQ ID NO: 85	LHCCD EGTFG GYPDIC HDKS WDQYWLW ASS ESYAAYLR SI GVDAWCFDY V		
SEQ ID NO: 79	VKCCD EGTFG GPPDIA HEKS WDQYWLW ASN ESYAAYLR SI GVDAWRFDY V		
thermo	VKCCD EGTFG GPPDIA HEKS WDQYWLW ASQ ESYAAYLR SI GIDAWRFDY V		
pyro2	LHCCD EGTFG GPPDIC HHKE WDQYWLW KSN ESYAAYLR SI GFDGWRFDY V		
CLONE A	YSTSD EGTFG GPPDID HLVP FNQYWLW ASN ESYAAYLR SI GIDAWRFDY V		
Consensus	---D-GTFG G-PDI-H--- --Q-WLW-S- -SYAAYLR SI G-D-W-FDY V		
	251		300
SEQ ID NO: 81	KGYGA WVVKD WLNWNG GWAV GEYWDIN VDA LLNWAYSS GA KVDFDFLYY K		
pyro	KGYGA WVVKD WLNWNG GWAV GEYWDIN VDA LLNWAYSS GA KVDFDFLYY K		
SEQ ID NO: 73	KGYAP WVVKD WLNWNG GWAV GEYWDIN VDA LLSWAYDS GA KVDFDFLYY K		
thermo2	KGYAP WVVKD WLNWNG GWAV GEYWDIN VDA LLSWAYDS GA KVDFDFLYY K		
SEQ ID NO: 77	KGYAP WVVKD WLNWNG GWAV GEYWDIN VDA VLNWAYSS GA KVDFDALYK K		
SEQ ID NO: 75	KGYAP WVVKD WLNWNG GWAV GEYWDIN VDA VLNWAYSS GA KVDFDALYK K		
SEQ ID NO: 83	KGYGA WVVKD WLSWNG GWAV GEYWDIN VDA LLNWAYSS GA KVDFDFLYY K		
SEQ ID NO: 85	KGYGA WVVKD WLSWNG GWAV GEYWDIN VDA LLNWAYSS GA KVDFDFLYY K		
SEQ ID NO: 79	KGYGA WVVKD WLDWNG GWAV GEYWDIN VDA LLNWAYSS GA KVDFDFLYY K		
thermo	KGYGA WVVKD WLKWN ALAV GEYWDIN VDA LLNWAYSS GA KVDFDFLYY K		
pyro2	KGYGA WVVKD WLNWNG GWAV GEYWDIN VDA LLSWAYDS GA KVDFDFLYY K		
CLONE A	KGYGA WVVKD WLSWNG GWAV GEYWDIN VDA LLNWAYSS GA KVDFDFLYY K		
Consensus	KGY--WVW--WL-W---AV GEYWDIN VDA -L-WAY-S-A KVDFD-LYY K		
	301		350
SEQ ID NO: 81	MDEAF DNKNI PALVSA LQNG QTVVSRD PFK AVTFVANH DT DIWNKYLA Y		
pyro	MDEAF DNTNI PALVDA LQNG GTVVSRD PFK AVTFVANH DT DIWNKYPAY		
SEQ ID NO: 73	MDEAF DNKNI PALVDA LKNG GTVVSRD PFK AVTFVANH DT NIWNKYPAY		
thermo2	MDEAF DNKNI PALVDA LKNG GTVVSRD PFK AVTFVANH DT NIWNKYPAY		
SEQ ID NO: 77	MDEAF DNKNI PALVDA LRYG QTVVSRD PFK AVTFVANH DT DIWNKYLA Y		
SEQ ID NO: 75	MDEAF DNKNI PALVDA LRYG QTVVSRD PFK AVTFVANH DT DIWNKYLA Y		
SEQ ID NO: 83	MDEAF DNTNI PALVDA LRYG QTVVSRD PFK AVTFVANH DT DIWNKYLA Y		
SEQ ID NO: 85	MDEAF DNTNI PALVYA LKNG GTVVSRD PFK AVTFVANH DT DIWNKYLA Y		
SEQ ID NO: 79	MDAAF DNKNI PALVEA LKNG GTVVSRD PFK AVTFVANH DT DIWNKYLA Y		
thermo	MDEAF DNKNI PALVSA LQNG QTVVSRD PFK AVTFVANH DT DIWNKYPAY		
pyro2	MDEAF DNKNI PALVYA LQNG QTVVSRD PFK AVTFVANH DT DIWNKYLA Y		
CLONE A	MDEAF DNKNI PALVYA LQNG ETVVSRD PFK AVTFVANH DT NIWNKYLA Y		
Consensus	MD-AF DN-NI PALV-A---G -TVVSRD PFK AVTFVANH DT -IWNKY-A-Y		
	351		400
SEQ ID NO: 81	AFILTYEGQP VIFYRD YEEW LNKDRLN NLI WIHDLAGGS TSIVVYDSDE		
pyro	AFILTYEGQP VIFYRD YEEW LNKDKLN NLI WIHDLAGGS TSIVVYDSDE		
SEQ ID NO: 73	AFILTYEGQP AIFYRD YEEW LNKDRLR NLI WIHDLAGGS TDIIVYDSDE		
thermo2	AFILTYEGQP AIFYRD YEEW LNKDRLR NLI WIHDLAGGS TDIIVYDSDE		
SEQ ID NO: 75	AFILTYEGQP TIFYRD YEEW LNKDKLN NLI WIHDLAGGS TDIIVYDND E		
SEQ ID NO: 77	AFILTYEGQP TIFYRD YEEW LNKDKLN NLI WIHDLAGGS TDIIVYDND E		
SEQ ID NO: 83	AFILTYEGQP VIFYRD YEEW LNKDKLN NLI WIHDLAGGS TDIIVYDSDE		
SEQ ID NO: 85	AFILTYEGQP VIFYRD YEEW LNKDKLN NLI WIHDLAGGS TDIIVYDSDE		
SEQ ID NO: 79	AFILTYEGQP TIFYRD YEEW LNKDRLK NLI WIHDLAGGS TDIIVYDND E		
thermo	AFILTYEGQP VIFYRD YEEW LNKDRLK NLI WIHDLAGGS TSIVVYDND E		
pyro2	AFILTYEGQP VIFYRD FEEW LNKDKLI NLI WIHDLAGGS TTIIVYDND E		
CLONE A	AFILTYEGQP VIFYRD YEEW LNKDKLN NLI WIHDLAGGS TKIVYDDDE		
Consensus	AFILTYEGQP -IFYRD -EEW LNKD-L- NLI WIH--LAGGS T-I-YD-DE		

Figure 14b (cont.)

	401		450
SEQ ID NO: 81	MIFVR NGYGS KPGLITYINL GSSKVGR WVY V.PKFAGACI HEYTGNLGGW		
pyro	LIFVR NGDSK RPGLITYINL GSSKVGR WVY V.PKFAGACI HEYTGNLGGW		
SEQ ID NO: 73	LIFVR NGYGD KPGLITYINL GSSKAGR WVY V.PKFAGS CI HEYTGNLGGW		
thermo2	LIFVR NGYGD KPGLITYINL GSSKAGR WVY V.PKFAGS CI HEYTGNLGGW		
SEQ ID NO: 75	LIFVR NGYGS KPGLITYINL GSSKAGR WVY V.PKFAGS CI HEYTGNLGGW		
SEQ ID NO: 77	LIFVR NGYGS KPGLITYINL ASSKAGR WVY V.PKFAGS CI HEYTGNLGGW		
SEQ ID NO: 83	LIFVR NGYGT KPGLITYINL GSSKVGR WVY V.PKFAGS CI HEYTGNLGGW		
SEQ ID NO: 85	LIFVR NGYGT KPGLITYINL GSSKAGR WVY V.PKFAGS CI HEYTGSLGGW		
SEQ ID NO: 79	LIFVR NGYGD KPGLITYINL GSSKAGR WVY V.PKFAGACI HEYTGNLGGW		
thermo	LIFVR NGYGN KPGLITYINL GSSKVGR WVY V.PKFAGS CI HEYTGNLGGW		
pyro2	LIFVR NGDSR RPGLITYINL SPNWWGR WVY V.PKFAGACI HEYTGNLGGW		
CLONE A	LIFMR EGYGD RPGLITYINL GSDWAER WVN VGSKFAGYTI HEYTGNLGGW		
Consensus	-IF-R-G--- -PGLITYINL -----R-WV- V--KFAG- -I HEYTG-LGGW		
	451		487
SEQ ID NO: 81	VDKYV YSSGW VYFEAP AYDP ANGQYGY SVW SYCGVG*		
pyro	VDKYV ESSGW VYLEAP AYDP ASGQYGY TVW SYCGVG*		
SEQ ID NO: 73	IDKWV DSSGR VYLEAP AHDP ANGQYGY SVW SYCGVG*		
thermo2	IDKWV DSSGR VYLEAP AHDP ANGQYGY SVW SYCGVG*		
SEQ ID NO: 75	VDKWV DSSGW VYLEAP AHDP ANGQYGY SVW SYCGVG*		
SEQ ID NO: 77	VDKWV DSSGW VYLEAP AHDP ANGQYGY SVW SYCGVG*		
SEQ ID NO: 83	IDKYV SSSGW VYLEAP AHDP ANGYYGY SVW SYCGVG*		
SEQ ID NO: 85	IDKYV SSSGW VYLEAP AHDP ANGQYGY SVW SYCGVG*		
SEQ ID NO: 79	VDKWV DSSGW VYLEAP AHDP ANGYYGY SVW SYCGVG*		
thermo	VDKYV GSNGW VYLEAP AHDP AKGQYGY SVW SYCGVG*		
pyro2	VDKRV DSSGW VYLEAP PHDP ANGYYGY SVW SYCGVG*		
CLONE A	VDRYV QYDGW VKLTAP PHDP ANGYYGY SVW SYAGVG*		
Consensus	-D--V--G- V---AP--DP A-G-YGY-VW SY-GVG*		

10016872.021102

Figure 14c:

	1					50
SEQ ID NO: 83	-----	-----	-----	-----	-----	-----
SEQ ID NO: 85	-----	-----	-----	-----	-----	-----
SEQ ID NO: 75	-----	-----	-----	-----	-----	-----
SEQ ID NO: 77	-----	-----	-----	-----	-----	-----
SEQ ID NO: 73	-----	-----	-----	-----	-----	-----
SEQ ID NO: 79	---ATGA AGC	CTGCGAAA CT	CCTCGTCTT T	GTGCTCGTAG	TCTCTATCCT	
SEQ ID NO: 81	---ATGA AGA	AGTTTGTG C	CCTGTTCAT A	ACCATGTTT T	TCGTAGTAGG	
CLONE A	ATGAGGA GAT	CCGCAAGG GT	TTTGGTTCT G	ATTATAGCGT	TTTTCTCTCT	
Consensus	-----	-----	-----	-----	-----	-----
	51					100
SEQ ID NO: 83	-----	-----	-----	-----	-----	ATGGCTCTGG
SEQ ID NO: 85	-----	-----	-----	-----	-----	ATGGCTCTGG
SEQ ID NO: 75	-----	-----	-----	-----	-----	ATGGCTCTGG
SEQ ID NO: 77	-----	-----	-----	-----	-----	ATGGCTCTGG
SEQ ID NO: 73	-----	-----	-----	-----	-----	ATGGCTCTGG
SEQ ID NO: 79	CGCGGGG CTC	TACGCCCA GC	CGCGGGGG C	GGCCAAGTAC	CTGGAGCTCG	
SEQ ID NO: 81	CATGGCA GTC	GTTCACAC GC	CAGCTAGCG C	CGCAAAGTAT	TCCGAGCTAT	
CLONE A	GGCGGGG ATT	TACTACCC CT	CCACGAGTG C	CGCGAAGTAC	TCCGAGCTGG	
Consensus	-----	-----	-----	-----	-----	-----
	101					150
SEQ ID NO: 83	AAGAGGG CGG	GCTCATAA TG	CAGGCTTCT T	ACTGGGATGT	TCCTGGAGGA	
SEQ ID NO: 85	AAGAGGG CGG	GCTTATAA TG	CAGGCATTCT	ATTGGGACGT	CCGAGGTGGA	
SEQ ID NO: 75	AAGAGGG CGG	GCTTATAA TG	CAGGCATTCT	ACTGGGACGT	CCCATGGAGA	
SEQ ID NO: 77	AAGAGGG CGG	GCTCATAA TG	CAGGCTTCT T	ACTGGGACGT	CCCATGGAGA	
SEQ ID NO: 73	TAGAGGG CGG	GCTTATAA TG	CAGGCTTCT T	ACTGGGACGT	CCGAGGTGGA	
SEQ ID NO: 79	AAGAGGG CGG	GCTCATAA TG	CAGGCTTCT T	ACTGGGACGT	GCCTTCAGGA	
SEQ ID NO: 81	AAGAAGG CGG	CGTTATAA TG	CAGGCTTCT T	ACTGGGACGT	CCGAGGTGGA	
CLONE A	AGCAGGG CGG	AGTCATAA TG	CAGGCTTCT T	ACTGGGACGT	TCCGAGGTGGA	
Consensus	-----GG CGG	--T-ATAA TG	CAGGC-TTCT	A-TGGA-GT	-CC- - - -GGA	
	151					200
SEQ ID NO: 83	GGAATCT GGT	GGGACACA AT	AGCTCAAAA G	ATACCCGAAT	GGGCAAGTGC	
SEQ ID NO: 85	GGAATCT GGT	GGGACACC AT	AGCCCAGAA G	ATACCCGAAT	GGGCAAGTGC	
SEQ ID NO: 75	GGAATCT GGT	GGGACACG AT	AGCCCAGAA G	ATACCCGACT	GGGCAAGCGC	
SEQ ID NO: 77	GGAATCT GGT	GGGACACG AT	AGCCCAGAA G	ATACCCGACT	GGGCAAGCGC	
SEQ ID NO: 73	GGAATCT GGT	GGGACACC AT	AGCCCAGAA G	ATACCCGACT	GGGCGAGCGC	
SEQ ID NO: 79	GGAATAT GGT	GGGACACA AT	ACGGCAGAA G	ATACCGGAGT	GGTACGATGC	
SEQ ID NO: 81	GGAATCT GGT	GGGACACC AT	CAGGAGCAA G	ATACCCGAGT	GGTACGAGGC	
CLONE A	GGAATCT GGT	GGGACACA AT	ACGGCAGAA G	ATCCCTGAAT	GGTACGATGC	
Consensus	GGAAT -T GGT	GGGACAC -AT	-----AAG	AT-CC-GA-T	GG- - - - -GC	
	201					250
SEQ ID NO: 83	AGGAATC TCA	CGGATATG GA	TTCCACCAG C	GAGTAAGGG C	ATGAGCGGTG	
SEQ ID NO: 85	AGGAATC TCA	CGGATATG GA	TTCCACCAG C	GAGTAAGGG A	ATGAGCGGTG	
SEQ ID NO: 75	CGGGATT TCG	CGGATATG GA	TTCCCCCGG C	GAGCAAGGG C	ATGAGCGGCG	
SEQ ID NO: 77	CGGGATT TCG	CGGATATG GA	TCCCTCCCG C	GAGCAAGGGT	ATGAGCGGCG	
SEQ ID NO: 73	CGGGATT TCG	GCAATATG GA	TTCTCCCGG C	GAGTAAGGG C	ATGAGCGGCG	
SEQ ID NO: 79	CGGAATC TCC	GCAATATG GA	TTCCCCCGG C	GAGCAAGGG C	ATGGGCGGCG	
SEQ ID NO: 81	GGGAATA TCC	GCCATTTG GA	TTCCCGCGG C	CAGCAAGGGG	ATGAGCGGCG	
CLONE A	AGGCATA TCC	GCCATCTG GA	TACCCCGGG C	GAGCAAGGG C	ATGGGCGGCG	
Consensus	-GG-AT- TC-	GC-AT- TG GA	T-CC-CC-GC C	-AG- AAGGG-	ATG- GCGG-G	

10061872.022102

Figure 14c (cont.)

251 300
 SEQ ID NO: 83 GTTATTC CAT GGGCTACG AT CCTACGAT T TCTTTGACCT CGGCGAGTAC
 SEQ ID NO: 85 GTTATTC CAT GGGCTACG AT CCTACGAT T TCTTTGACCT CGGCGAGTAC
 SEQ ID NO: 75 GCTATTC GAT GGGCTACG AC CCTACGAT T ATTTTGACCT CGGTGAGTAC
 SEQ ID NO: 77 GCTATTC GAT GGGCTACG AC CCTACGAT T ATTTTGACCT CGGTGAGTAC
 SEQ ID NO: 73 GCTATTC GAT GGGCTACG AC CCTACGAT T TCTTGACCT CGGTGAGTAC
 SEQ ID NO: 79 CCTATTC GAT GGGCTACG AC CCTACGAT T TCTTTGACCT CGGTGAGTAC
 SEQ ID NO: 81 GTTATTC GAT GGGCTACG AT CCTACGAT T TCTTTGACCT CGGCGAGTAC
 CLONE A CCTACTC GAT GGGCTACG AC CCTACGAT T ACTTGATCT GGGCGAGTTT
 Consensus --TA-TC-AT GGGCTACG-A CCTACG-A --TT-GA-CT --GG-GAGT--

301 350
 SEQ ID NO: 83 TATCAGA AGG GGACAGTT GA GACGCGCTT C GGCTCAAAGG AAGAAGCTGGT
 SEQ ID NO: 85 TATCAGA AGG GGACAGTT GA GACGCGCTT C GGCTCAAAGG AAGAAGCTGGT
 TACCAGA AGG GAACGGTG GA AACAGATT C GGCTCAAAGG AGGAGCTCAT
 SEQ ID NO: 77 TACCAGA AGG GAACGGTG GA AACGAGTT C GGCTCAAAGG AGGAGCTCAT
 SEQ ID NO: 73 TACCAGA AGG GAACGGTG GA GACCGCTT C GGATCAAAG AGGAGCTTGT
 SEQ ID NO: 79 GACCAGA AGG GAACGGTA GA GACGCGCTT C GGCTCAAAG AGGAGCTCGT
 SEQ ID NO: 81 AACCAGA AGG GAACCATC GA AACGCGCTT T GGCTCAAAG AGGAGCTCAT
 CLONE A TACCAGA AGG GAACGGTT GA GACCGCTT C GGCTCAAAGG AAGAGCTCGT
 Consensus -A-CAGA AGG G-A---T- GA -AC--G-TT- GG-TC-AA-- A-GA-CT--T

351 400
 SEQ ID NO: 83 GAACATG ATA AACACCGC AC ACTCCTACGG CATAAAGGTG ATAGCAGACA
 SEQ ID NO: 85 GAACATG ATA AACACCGC AC ACTCCTACGG CATAAAGGTG ATAGCGGTG
 SEQ ID NO: 75 AAACATG ATA AACACCGC CC ACGCCTATGG CATGAAGGTA ATAGCCGATA
 SEQ ID NO: 77 AAACATG ATA AACACCGC CC ACGCCTATGG CATGAAGGTA ATAGCCGATA
 SEQ ID NO: 73 GAACATG ATA AACACCGC CC ATGCTCACA A CATGAAGGTC ATAGCGGACA
 SEQ ID NO: 79 GAACATG ATA AACACCGC CC ACGCCTACGG CATGAAGGTC ATGCGAGACA
 SEQ ID NO: 81 CAATATG ATA AACACCGC CC ATGCTCAGG CATAAAGGTC ATAGCGGACA
 CLONE A CAACATG ATC TCCACGGC CC ACCAGTACGG CATCAAGGTT ATAGCGGACA
 Consensus --AA-ATGAT- --CAC-GC-C A-----A-- CAT-AAGGT- AT-GC-GA-A

401 450
 SEQ ID NO: 83 TAGTCAT AAA CCACCGCG CC GGTGGAGAC C TTGAGTGGAA CCCCTTCGTG
 SEQ ID NO: 85 TAGTCAT AAA CCACCGCG CC GGTGGAGGC C TCGAGTGGAA CCCCTTCGTG
 SEQ ID NO: 75 TAGTCAT CAA CCACCGCG CC GGCAGGAT C TGGAGTGGAA CCCCTTCGTG
 SEQ ID NO: 77 TAGTCAT CAA CCACCGCG CC GGCAGTAC C TGGAGTGGAA CCCCTTCGTG
 SEQ ID NO: 73 TAGTCAT CAA CCACCGCG CC GGCAGGAC C TGGAGTGGAA TCCCTTCGTC
 SEQ ID NO: 79 TAGTAAT CAA CCACCGCG CC GGAGGAGAC C TTGAGTGGAA CCCCTTCGTC
 SEQ ID NO: 81 TCGTCAT AAA CCACCGCG CA GGCAGGAC C TCGAGTGGAA CCCGTTCTGT
 CLONE A TAGTGAT AAA CCACCGCG CA GGTGGAGAC C TCGAATGGAA CCGTACGTC
 Consensus T-GT-AT-AA CCACCGCG-C GG-GG-G--C T-GA-TGGAA --CC-T-C---

451 500
 SEQ ID NO: 83 AACGACT ATA CTTGGACA GA CTTCTCAAAA GTCGCTTCGG GTAATATATAC
 SEQ ID NO: 85 AACGACT ATA CTTGGACA GA CTTCTCAAAA GTCGCTTCGG GTAATATATAC
 SEQ ID NO: 75 AACGACT ATA CTTGGACC GA CTTCTCGAAG GTCGCTTCGG GTAATATACAC
 SEQ ID NO: 77 AACGACT ATA CTTGGACC GA CTTCTCAAA GTCGCTTCGG GTAATATACAC
 SEQ ID NO: 73 AACGACT ACA CTTGGACC GA TTTCTCGAAG GTCGCTTCGG GCAAGTACAC
 SEQ ID NO: 79 AATGACT ACA CTTGGACC GA CTTCTCGAAG GTCGCTTCGG GCAAGTACAC
 SEQ ID NO: 81 GGGGACT ACA CTTGGACG GA CTTCTCAAA GTCGCTTCGG GCAATATATAC
 CLONE A GGGGACT ATA CTTGGACG GA CTTTCTCAA GTCGCTTCGG GGAATATACAA
 Consensus -----CTA-A CTTGGAC- GA -TT-TC-AA- GT-GC-TC-G G-AA-TA-A-

Figure 14c (cont.)

501 550
 SEQ ID NO: 83 GGCCAAC TAC CTTGACTT CC ACCCAAACGA GCTTCACTGT TGTGATGAAG
 SEQ ID NO: 85 AGCCAAC TAC CTTGACTT CC ACCCAAACGA GCTTCACTGT TGTGATGAAG
 SEQ ID NO: 75 GGCCAAC TAC CTTGACTT CC ACCCGAACGA GCTCCACGG GGGGATCCG
 SEQ ID NO: 77 GGCCAAC TAC CTTGACTT CC ACCCGAACGA GCTCCATGG GGGGATCCG
 SEQ ID NO: 73 GGCCAAC TAC CTTGACTT CC ACCCGAACGA GCTTCAACGG GGGGATCCG
 SEQ ID NO: 79 GGCCAAC TAC CTTGACTT CC ACCCGAACGA GGTCAAGTGC TCGGACGAGG
 SEQ ID NO: 81 GGCCAAC TAC CTTGACTT CC ACCCGAACGA GGTCAAGTGC TGTGACGAGG
 CLONE A GGCCCAAC TAC ATGGACTT CC ATCCAAACAA CTACAGCACC TCAGACGAGG
 Consensus G-CC-AC TAC -T-GACTT CC A-CC-AAC-A - - - - - GA - - - - -

551 600
 SEQ ID NO: 83 GTACCTT TGG AGGATACC CT GATATATGT C ACGACAAAG CTGGGACCAG
 SEQ ID NO: 85 GTACCTT TGG AGGATACC CT GATATATGT C ACGACAAAG CTGGGACCAG
 SEQ ID NO: 75 GAACATT TGG AGGCTATC CC GACATATGC C ACGACAAGAG CTGGGACCAG
 SEQ ID NO: 77 GAACATT TGG AGGCTATC CC GACATATGC C ACGACAAGAG CTGGGACCAG
 SEQ ID NO: 73 GAACATT TGG AGGCTATC CC GACATATGC C ACGACAAGAG CTGGGACCAG
 SEQ ID NO: 79 GCACCTT TGG AGGCTTCC CC GACATAGCC C ACGAGAAGAG CTGGGACCAG
 SEQ ID NO: 81 GCACATT TGG AGGCTTCC CA GACATAGCC C ACGAGAAGAG CTGGGACCAG
 CLONE A GAACCTT CGG TGGCTTCC CA GACATTGAT C ACCTCGTGCC CTTCACCAAG
 Consensus G-AC-TT -GG -GG-T- -C-C- GA-AT- - - - - AC - - - - - CT - - - - -

601 650
 SEQ ID NO: 83 TACTGGC TCT GGGCGAGC AG CGAAAGCTA C GCTGCCTACC TCAGGAGCAT
 SEQ ID NO: 85 TACTGGC TCT GGGCGAGC AG CGAAAGCTA C GCTGCCTACC TCAGGAGCAT
 SEQ ID NO: 75 TACTGGC TCT GGGCCAGC CA GGAGAGCTA C GGGGCTATC TCAGGAGCAT
 SEQ ID NO: 77 TACTGGC TCT GGGCCAGC CA GGAGAGCTA C GGGGCTATC TCAGGAGCAT
 SEQ ID NO: 73 TACTGGC TCT GGGCCAGC AA CGAAAGCTA C GCGGCTATC TCAGGAGCAT
 SEQ ID NO: 79 TACTGGC TCT GGGCCAGC AA CGAGAGCTA C GCGGCTATC TCAGGAGCAT
 SEQ ID NO: 81 TACTGGC TCT GGGCCAGC GA TGAGAGCTA C GCGGCTATC TAAGGAGCAT
 CLONE A TACTGGC TGT GGGCCAGC AA CGAGAGCTA C GCGGCTATC TCAGGAGCAT
 Consensus -ACTGGCT-T GGGC-AGC - - - - - GA-AGCTA C GC-CC-TA-C T - - - - -

651 700
 SEQ ID NO: 83 AGGGGTT GAC GCCTGGCG TT TCGACTACGT CAAGGGCTAC GGAGCATGGG
 SEQ ID NO: 85 AGGGGTT GAC GCCTGGTG TT TCGACTACGT CAAGGGCTAC GGAGCGTGGG
 SEQ ID NO: 75 CGGCATC GAT GCCTGGCG CT TCGACTACGT CAAGGGCTAT GCTCCCTGGG
 SEQ ID NO: 77 CGGCATC GAT GCCTGGCG CT TCGACTACGT CAAGGGCTAT GCTCCCTGGG
 SEQ ID NO: 73 CGGCATC GAT GCCTGGCG CT TCGACTACGT CAAGGGCTAC GGAGCGTGGG
 SEQ ID NO: 79 CGGCCTT GAT GCATGGCG CT TCGACTACGT CAAGGGCTAC GGAGCGTGGG
 SEQ ID NO: 81 CGGCCTT GAT GCCTGGCG CT TTGACTACGT GAAGGGCTAC GGAGCGTGGG
 CLONE A AGGGATC GAT GCGTGGCG CT TTGACTACGT TAAGGGCTAC GGCGGTGGG
 Consensus -GG--T- GA- GC-TGG-G -T T-GACTACGT -AAGGGCTA- G-- -C-TGGG

701 750
 SEQ ID NO: 83 TTGTTAA CGA CTGGCTCA GC TGGTGGGGA GCTGGGCGT TGGAGAGTAC
 SEQ ID NO: 85 TTGTTAA CGA CTGGCTCA GC TGGTGGGGA GCTGGGCGT TGGAGAGTAC
 SEQ ID NO: 75 TCGTCAA GGA CTGGCTGA AC TGGTGGGGA GCTGGGCGT TGGAGAGTAC
 SEQ ID NO: 77 TCGTCAA GGA CTGGCTGA AC TGGTGGGGA GCTGGGCGT TGGAGAGTAC
 SEQ ID NO: 73 TCGTTAA GAA CTGGCTGA AC CGGTGGGGA GCTGGGCGT TGGAGAGTAC
 SEQ ID NO: 79 TCGTCAA GGA CTGGCTGA AC TGGTGGGGA GCTGGGCGT CGGAGAGTAC
 SEQ ID NO: 81 TCGTCAA GGA CTGGCTCA AC TGGTGGGGA GCTGGGCGT TGGAGAGTAC
 CLONE A TCGTCAA GGA CTGGCTGA GT CAGTGGGGA GCTGGGCGT CGGAGAGTAC
 Consensus T-GT-A- - - - - CTGGCT- - - - - GTGGG-G GCTGGGCGT -GG-GAGTAC

10081072.022102

Figure 14c (cont.)

	751		800
SEQ ID NO: 83	TGGGACA CGA	ACGTTGAT GC	ACTCCTCAA C
SEQ ID NO: 85	TGGGACA CTA	ACGTTGAT GC	ACTCCTCAA C
SEQ ID NO: 75	TGGGACA CCA	ACGTCGAC GC	TGTTCTCAA C
SEQ ID NO: 77	TGGGACA CCA	ACGTCGAC GC	TGTTCTCAA C
SEQ ID NO: 73	TGGGACA CCA	ACGTCGAT GC	ACTCCTGAG C
SEQ ID NO: 79	TGGGACA CAA	ACGTTGAT GC	ACTGCTCAA C
SEQ ID NO: 81	TGGGACA CCA	ACGTTGAT GC	ACTCCTCAA C
CLONE A	TGGGACA CCA	ACGTCGAT GC	GCTCCTCAA C
Consensus	TGGGACA C-A	ACGT-GA- GC	--T-CT-A- C
			TGGGC-TAC- --AGCG--GC
	801		850
SEQ ID NO: 83	CAAGGTC TTT	GACTTCCC GC	TCTACTACA A
SEQ ID NO: 85	CAAGGTC TTT	GACTTCCC GC	TCTACTACA A
SEQ ID NO: 75	CAAGGTC TTT	GACTTCGC CC	TCTACTACA A
SEQ ID NO: 77	CAAGGTC TTT	GACTTCGC CC	TCTACTACA A
SEQ ID NO: 73	TAAAGTC TTC	GACTTCCC GC	TCTACTACA A
SEQ ID NO: 79	AAAAGTC TTC	GACTTCCC GC	TCTACTACA A
SEQ ID NO: 81	CAAGGTC TTC	GACTTCCC GC	TCTACTACA A
CLONE A	CAAGGTC TTC	GACTTCCC GC	TCTACTACA A
Consensus	--AA-GTC TT-	GACTTC- C- C	TCTACTACA A
			GATGGA- G-- GCCTT-GA-A
	851		900
SEQ ID NO: 83	ACACCAA CAT	CCC CGCAT TA	GTGGATGCA C
SEQ ID NO: 85	ATACCAA CAT	CCC CGCTT TG	GTTTACGCC C
SEQ ID NO: 75	ACAACAA CAT	TCC CGCCT TG	GTGGACGCC C
SEQ ID NO: 77	ACAACAA CAT	TCC CGCCT TG	GTGGACGCC C
SEQ ID NO: 73	ACAACAA CAT	CCC CGCCT TC	GTGGACGCC C
SEQ ID NO: 79	ACAAGAA CAT	TCC CGCAC TC	GTCCAGGCC C
SEQ ID NO: 81	ACAAPAA CAT	TCC AGCGC TC	GTCTCTGCC C
CLONE A	ACAAGAA CAT	TCC CGCCT TC	GTTTACGCC C
Consensus	A-A-AA CAT	-CC-GC--T- T	GT----GC- T
			T----A-GG ---AC-GT-
	901		950
SEQ ID NO: 83	GTCAGCC GCG	ATCCCTTCAA	GCGGTAAC T
SEQ ID NO: 85	GTCAGCC GCG	ATCCATTC AA	GCGGTAAC T
SEQ ID NO: 75	GTCAGCC GCG	ATCCGTTT AA	GCGTGTGAC G
SEQ ID NO: 77	GTCAGCC GCG	ATCCGTTT AA	GCGTGTGAC G
SEQ ID NO: 73	GTCAGCC GCG	ATCCGTTT AA	GCGGTAAC C
SEQ ID NO: 79	GTCAGCC GCG	ATCCGTTT AA	GCGGTAAC C
SEQ ID NO: 81	GTCAGCC GCG	ATCCGTTT AA	GCGGTAAC C
CLONE A	GTCAGCA GGG	ATCCCTTCAA	GCGGTAAC C
Consensus	GTC--C- G-G	A-CC-TT- AA	-GC-GT-AC- TT-GT-GC-A
			ACCAAGATA- ACCAGATA- ACCAGATAC
	951		1000
SEQ ID NO: 83	AGATATA ATC	TGGAACAA GT	ATCCCGCTT A
SEQ ID NO: 85	AGATATA ATC	TGGAACAA GT	ATCCCGCTT A
SEQ ID NO: 75	CGACATA ATC	TGGAACAA GT	ATCCAGCCT A
SEQ ID NO: 77	CGACATA ATC	TGGAACAA GT	ATCCAGCCT A
SEQ ID NO: 73	CAACATA ATC	TGGAACAA GT	ATCCGCTT A
SEQ ID NO: 79	CGACATA ATT	TGGAACAA GT	ATCCGCTT A
SEQ ID NO: 81	CGATATA ATC	TGGAACAA GT	ATCCGCTT A
CLONE A	GAACATA ATC	TGGAACAA GT	ATCCGCTT A
Consensus	--A-ATA AT-	TGGAACAA GT	A-C--GC-TA
			-GC-TTATC CT-ACCTA-G

10061872.022102

Figure 14c (cont.)

	1001		1050
SEQ ID NO: 83	AGGGACA GCC TGTATAT TC TACCGGAC T ACGAGGAGTG	GCTCAACAAG	
SEQ ID NO: 85	AGGGACA GCC TGTATAT TC TACCGGAC T ACGAGGAGTG	GCTCAACAAG	
SEQ ID NO: 75	AGGGCCA GCC GACAATAT TC TACCGGAC T ACGAGGAGTG	GCTCAACAAG	
SEQ ID NO: 77	AGGGCCA GCC GACAATAT TC TACCGGAC T ACGAGGAGTG	GCTCAACAAG	
SEQ ID NO: 73	AGGGACA GCC GGAATAT TC TACCGGAC T ACGAGGAGTG	GCTCAACAAG	
SEQ ID NO: 79	AGGGCCA GCC GACGATAT TC TACCGGAC T ACGAGGAGTG	GCTCAACAAG	
SEQ ID NO: 81	AAGGCCA GCC CGTCATAT TT TACCGGAC T ACGAGGAGTG	GCTCAACAAG	
CLONE A	AAGGTCA GCC CGTCATCT TC TACCGGAC T ACGAGGAGTG	GCTCAACAAG	
Consensus	A-GG-CA GCC ---AT-TT- TACCGGAC T ACGAGGAGTG	GCTCAACAAG	
	1051		1100
SEQ ID NO: 83	GATAAGC TTA ACAACCTC AT CTGGATACA C GATCACCTTG	CTGGAGGGAG	
SEQ ID NO: 85	GATAAGC TTA ACAACCTC AT CTGGATACA C GATCACCTTG	CTGGAGGGAG	
SEQ ID NO: 75	GACAAGC TCA AGAACCTC AT CTGGATACA T GACAACTCG	CCGGAGGGAG	
SEQ ID NO: 77	GATAAGC TCA AGAACCTC AT CTGGATACA T GACAACTCG	CCGGAGGGAG	
SEQ ID NO: 73	GACAGGCTCA GGAACCTC AT CTGGATACA C GACCACTCG	CCGGAGGAAAG	
SEQ ID NO: 79	GACAGGCTCA AGAACCTC AT CTGGATACA C GACCACTCG	CCGGTGAAG	
SEQ ID NO: 81	GACAGGT TGA ACAACCTC AT ATGGATACA C GACCACTCG	CAGGTGAAG	
CLONE A	GACAAAC TCA ACAACCTC AT ATGGATTCA C GACCACTCG	CAGGGGGAAG	
Consensus	GA-A---T-A --AACCTC AT -TGGAT-CA- GA--ACCT-G C-GG-GG-AG		
	1101		1150
SEQ ID NO: 83	TACTGAC ATT GTTTACTA CG ACAGCGACGA GCTTATCTTT	GTGAGAAACG	
SEQ ID NO: 85	TACTGAC ATT GTTTACTA CG ACAGCGACGA GCTTATCTTT	GTGAGAAACG	
SEQ ID NO: 75	CACTGAC ATC GTTTACTA CG ACAACGACGA GCTGATATTC	GTGAGAAACG	
SEQ ID NO: 77	CACTGAC ATC GTTTACTA CG ACAACGACGA GCTGATATTC	GTGAGAAACG	
SEQ ID NO: 73	CACAGAC ATC ATCTACTA CG ACAGCGACGA GCTTATCTTC	GTGAGAAACG	
SEQ ID NO: 79	CACCGAC ATA GTCTACTA CG ATACGATGA ACTCATCTTC	GTGAGAAACG	
SEQ ID NO: 81	CACGAGC ATA GTTTACTA CG ACAGCGACGA GATGATTTTC	GTGAGGAACG	
CLONE A	CACCAAG ATC CTCTACTA CG ACGACGATGA GCTCATCTTC	ATGAGGGAAG	
Consensus	-AC----AT- -T-TACTA CG A---CGA-GA --T-AT-TT- -T-AG--A-G		
	1151		1200
SEQ ID NO: 83	GCTATGG CAC CAAACCGA GA CTGATAACCT ATATCAACCT	CGGCTCAAGC	
SEQ ID NO: 85	GCTATGG CAC CAAACCGA GA CTGATAACCT ATATCAACCT	CGGCTCAAGC	
SEQ ID NO: 75	GCTACGG AAG CAAGCCGG GA CTGATAACA T ACATCAACCT	CGGCTCAAGC	
SEQ ID NO: 77	GCTACGG AAG CAAGCCGG GA CTGATAACA T ACATCAACCT	CGGCTCAAGC	
SEQ ID NO: 73	GCTACGG GGA CAAGCCGG GA CTGATAACC T ACATCAACCT	CGGCTCAAGC	
SEQ ID NO: 79	GCTACGG GGA CAAGCCGG GG CTTATAACC T ACATCAACCT	AGGCTCGAGC	
SEQ ID NO: 81	GCTATGG AAG CAAGCCGG GC CTTATAACC T ACATCAACCT	CGGCTCGAGC	
CLONE A	GCTACGG CGA CAGGCCGG GG CTTATAACC T ACATCAACCT	CGGCTCGAGC	
Consensus	GCTA-GG --- CA--CC-GG- CT-ATAAC-T A-ATCAACCT -G-----C		
	1201		1250
SEQ ID NO: 83	AAAGTTG GAA GGTGGGTC TA CGTT...CCA AAGTTCGCG	GTTCATGCAT	
SEQ ID NO: 85	AAAGCTG GAA GGTGGGTC TA CGTT...CCA AAGTTCGCG	GTTCATGCAT	
SEQ ID NO: 75	AAAGCCG GAA GGTGGGTT TA CGTT...CCG AAGTTCGACG	GCTCTGTGCAT	
SEQ ID NO: 77	AAAGCCG GAA GGTGGGTT TA CGTT...CCG AAGTTCGACG	GCTCTGTGCAT	
SEQ ID NO: 73	AAGGCCG GAA GGTGGGTC TA CGTT...CCG AAGTTCGACG	GCTCTGTGCAT	
SEQ ID NO: 79	AAGGCCG GGA GGTGGGTC TA CGTT...CCG AAGTTCGCGG	GACGCTGCAT	
SEQ ID NO: 81	AAGGTTG GAA GGTGGGTT TA TGTT...CCG AAGTTCGCGG	CGCGCTGCAT	
CLONE A	TGGGCCG GGA GATGGGTG AA CGTTGGCTCA AAGTTCGCGG	GCTATACAT	
Consensus	---G--G--A G-TGGGT--A -GT-----C AAGTTCGCG-G-----AT		

Figure 14c (cont.)

1251 1300

SEQ ID NO: 83 CCACGAG TAC ACCGGCAA CC TCGGCGGTTG GATAGACAAG TACGTCTCCT
 SEQ ID NO: 85 CCACGAG TAC ACCGGCAG CC TCGGCGGTTG GATAGACAAG TACGTCTCCT
 SEQ ID NO: 75 ACACGAG TAC ACCGGCAA CC TCGGCGGCT G GGTGGACAAG TGGGTGGACT
 SEQ ID NO: 77 ACACGAG TAC ACCGGCAA TC TCGGCGGCT G GGTGGACAAG TGGGTGGACT
 SEQ ID NO: 73 ACACGAG TAC ACCGGCAA CC TCGGCGGCT G GATTGACAAG TGGGTGGACT
 SEQ ID NO: 79 CCACGAG TAC ACCGGCAA CC TCGGCGGCT G GGTGGACAAG TGGGTGGACT
 SEQ ID NO: 81 CCACGAG TAT ACTGGTAA CC TCGGAGGCT G GGTAGACAAG TACGTCTACT
 CLONE A CCACGAA TAC ACCGGAAC CC TCGGCGGCT G GGTGACAGG TACGTCCAGT
 Consensus -CACGA -TA- AC-GG-A- -C TCGG-GG-TG G-T-GACA-G T--GT----T

1301 1350

SEQ ID NO: 83 CCAGCGG CTG GGTCTATC TT GAGGCCCA G CCCACGACC GGCGAACGGC
 SEQ ID NO: 85 CCAGCGG CTG GGTCTACC TT GAGGCCCG G CCCACGACC GGCCAATGGC
 SEQ ID NO: 75 CAAGCGG CTG GGTTTACC TC GAGGCTCCT G CCCACGACC GGCCAACGGC
 SEQ ID NO: 77 CAAGCGG CTG GGTCTACC TC GAGGCTCCT G CCCACGACC GGCCAACGGC
 SEQ ID NO: 73 CAAGCGG CTG GGTCTACC TT GAGGCCCG G CCCACGACC GGCCAACGGC
 SEQ ID NO: 79 CAAGCGG GTG GGTGTACC TC GAGGCCCT G CCCACGACC GGCCAACGGC
 SEQ ID NO: 81 CAAGCGG CTG GGTCTATT TC GAAGCTCCA G CTTACGACC TGCCAACGGC
 CLONE A ACGACGG CTG GGTCAAGC TT ACCGCTCC G CACACGATCC GGCAACGGC
 Consensus ---CGG--G GGT--A--T- ---GC-CC- C--ACGA-CC -GC-AA-GG-

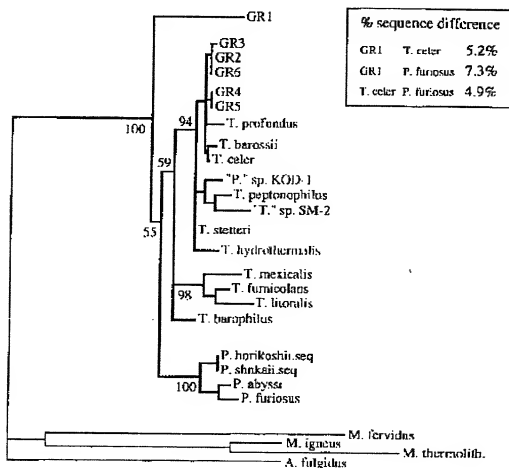
1351 1393

SEQ ID NO: 83 TACTACG GCT ACTCCGTA TG GAGCTACTG C GGGGTTGGGT GA-
 SEQ ID NO: 85 CAGTATG GCT ACTCCGTG TG GAGCTATTG C GGGGTTGGGT GA-
 SEQ ID NO: 75 CAGTACG GCT ACTCCGTT TG GAGCTATTG C GGTGTTGGGT GA-
 SEQ ID NO: 77 CAGTACG GCT ACTCCGTG TG GAGCTACTG C GGTGTTGGGT GA-
 SEQ ID NO: 73 CAGTACG GCT ACTCCGTA TG GAGCTACTG C GGTGTTGGGT GA-
 SEQ ID NO: 79 TATTACG GCT ACTCCGTC TG GAGCTACTG C GGGGTTGGGT GA-
 SEQ ID NO: 81 CAGTATG GCT ACTCCGTG TG GAGCTATTG C GGTGTTGGGT GA-
 CLONE A TATTACG GCT ACTCGGTC TG GAGCTACGC C GGAGTTGGAT GA-
 Consensus -A-TA-GGCT ATCT-GT- TG GAGTA---C GG-GT-GG-T GA-

10061672.02E102

Figure 15:

Neighbor-joining tree for Thermococcales



bootstrap values for 100 replicates

Figure 16 (all sequences are listed in 5' to 3' order)

SEQ ID NO.: 1

atggcaagttattccgagctcgaagagggcgggctcataatgcaggccttctactgggacgtccccatggggaagatctgggggacacgat
agcccaagaagataccgactcggcgaagcgcgggatttcggcgatattggattccccggcgagcgaaggcgaatggggcgccatttcgatg
ggctacgaccctcactgactctttgacctcgggtgagtagcaccgaagggaacggtagagacgcgttttgctccaagcaggagcctgtgaa
catgataaacaccgccacgcctatggcatgaaggtaatagccgataatgcatcaaccaccgcgcggcggtgacctggagtggaacccct
cgtgaacacgataactcggacgacttccaaggctcgcgtcgggtaaatacacggccaactactcgaactccaccgaacgacgtccatgc
gggcgattccggaacatttggaggtatcccgacatagccacgacaagagctgggacagctgctgctggggcagcagcaggagagctac
ggcgcatatctcaggagcatcgggcatcgtgctcgttcgactacgtcaaggcgactcaggagcgtgggtcgtcaaggagctggctggactg
gtggggagggctgggcgtcggggagctacgggacacaaggtgatgcactcgtcaactgggcctactcagcgatgcaaaagtcttcgact
cccgctctactacaagagtgagcggcgtcttgacaacaagaacattccgcactcgtcaggccctcaagaacggggcgacagctgacgac
ggacccgtttaaaggcgttaacctctgttgcgaacaccgacaccgataatacttggaaacagatccagcctacgcgttcatctcactacgag
ggccagccgacaattatccgcgactacgaggagtggtcacaagaagataagctcaagaaacctcattggatacagacaacctcggcgg
aggaaagcactgacacgtttactacgacaaacgacgagctgatatctgtgagaacggctacggaagcaagccgggactgataacatacatcaa
ctcgtcccaagcaaaagccggaaagtggtgttctggttcgaaaggttcgagcgtcgtgcatacacgagtagcaccggcaatctcggcggtgggt
ggacaagtggtgtgagcagcggcgtgggtctactcagggctcctgccacgaccggccaacggccagtagcggctactcgtctggagc
tactcgggtgtgggtga

SEQ ID NO.: 2

Met Ala Lys Tyr Ser Glu Leu Glu Gly Gly Leu Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Met
Gly Gly Ile Trp Trp Asp Thr Ile Ala Gln Lys Ile Pro Asp Trp Ala Ser Ala Gly Ile Ser Ala Ile Trp
Ile Pro Ala Ser Lys Lys Met Gly Gly Ala Tyr Ser Met Gly Pro Tyr Asp Phe Phe Asp
Leu Gly Glu Tyr Asp Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Val Asn
Met Ile Asn Thr Ala His Ala Tyr Gly Met Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly
Asp Leu Glu Trp Asn Pro Phe Val Asn Asp Tyr Thr Trp Asp Phe Ser Lys Val Ala Ser Gly Lys
Tyr Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Leu His Ala Gly Asp Ser Gly Thr Phe Gly Gly
Tyr Pro Asp Ile Cys His Asp Lys Ser Trp Asp Gln Tyr Trp Leu Trp Ala Ser Gln Glu Ser Tyr Ala
Ala Tyr Leu Arg Ser Ile Gly Ile Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Ala Trp Val
Val Lys Asp Trp Leu Asp Trp Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Asp Thr Asn Val Asp Ala
Leu Leu Asn Trp Ala Tyr Ser Ser Asp Ala Lys Val Phe Asp Phe Pro Leu Tyr Tyr Lys Met Asp Ala
Ala Phe Asp Asn Lys Asn Ile Pro Ala Leu Val Glu Ala Leu Lys Asn Gly Gly Thr Val Val Ser Arg
Asp Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro Ala
Tyr Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Glu Tyr Leu Asn
Lys Asp Lys Leu Lys Asn Leu Ile Trp Ile His Asp Asn Leu Ala Gly Gly Ser Thr Asp Ile Val Tyr
Tyr Asp Asn Asp Glu Leu Ile Phe Val Arg Asn Gly Tyr Gly Ser Lys Pro Gly Leu Ile Thr Tyr Ile
Asn Leu Ala Ser Lys Ala Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ser Cys Ile His Glu
Tyr Thr Gly Asn Leu Gly Gly Trp Val Asp Lys Trp Val Asp Ser Ser Gly Trp Val Tyr Leu Glu Ala
Pro Ala His Asp Pro Ala Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 3

atggccaagttactcggagctcgaagagggcgggctcataatgcaggccttctactgggacgtccccatggggaagatctgggggacacgat
agcccaagaagataccgactcggcgaagcgcgggatttcggcgatattggattccccggcgagcgaaggcgaatggggcgccatttcgatg
ggctacgaccctacgactctttgacctcgggtgagtagcaccgaagggaacggtagagacgcgttttgctccaagcaggagcctgtgaa
catgataaacaccgccacgcctacggcataaagctcagcagacatagtaatcaaccaccgcgcggaggagaccttggaggaaacccct
tcgtcaatgactacactcggacggactctcgaaggtcgtctccggcaagtagcagccaattactcgaactccaccgaacgagctccatgc
gggcgattccggacaatttggaggtatcccgacatagccacgacaagagctgggacagtagcttggcttggggcagcaggaagtagctac
ggcgcatcggcagcgtcggcgtcgtcgttcgactacgtcaaggcgctgctcctgtcgtcgaagactggctgaactgtt
ggggagggctggcggttggagtagctcgggacccaacgctcagcgtgttctcaacttgcagctacgcgagcgtgtcgaagcttcttgaactg
ccctctactacaagtaggatgaggcctttgacacaacaaacattccagcgtcgtctcgtccctcagaacggccagactgttctcggcgcgac
ccgttcaaggcgtgacttgaagcaaacgacacccgataatacttgaacaagtagtcagcgtcgtgactcactcactcagggggc

Figure 16 (cont.)

agccgacaaatttaccgactacgagagtggtcacaagggataagctcaagaacctcatctggatacatgacaacctcgccggaggga
agcactigacatcggttactacgacaacgacgagctgatattctgagaacggctacggaagcaagcgggactgataacatacatcaacctc
gcctcaagcgaaagcggaagtggtgtctactgtccgaagttcgcgggagcgtgcatcacgagtagacacggcaacctcggcgctgggtgg
acaagtgggtggactcaagcgggtgggtgtactcaggccctgccacgaccggcgcaacggctattacggctactctcgtctggagctatt
cggtgttgggtga

SEQ ID NO.: 4

Met Ala Lys Tyr Leu Glu Leu Glu Gly Gly Leu Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Met
Gly Gly Ile Trp Trp Asp Thr Ile Ala Gln Lys Ile Pro Asp Trp Ala Ser Ala Gly Ile Ser Ala Ile Trp
Ile Pro Pro Ala Ser Lys Gly Met Gly Gly Ala Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Phe Phe Asp
Leu Gly Glu Tyr Asp Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Val Asn
Met Ile Asn Thr Ala His Ala Tyr Gly Ile Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly
Asp Leu Glu Trp Asn Pro Phe Val Asn Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys
Tyr Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Leu His Ala Gly Asp Ser Gly Thr Phe Gly Gly
Tyr Pro Asp Ile Cys His Asp Lys Ser Trp Asp Gln Tyr Trp Leu Trp Ala Ser Gln Glu Ser Tyr Ala
Ala Tyr Leu Arg Ser Ile Gly Ile Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Ala Pro Trp Val
Val Lys Asp Trp Leu Asn Trp Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Asp Thr Asn Val Asp Ala
Val Leu Asn Trp Ala Tyr Ser Ser Gly Ala Lys Val Phe Asp Phe Ala Leu Tyr Tyr Lys Met Asp Glu
Ala Phe Asp Asn Lys Asn Ile Pro Ala Leu Val Ser Ala Leu Gln Asn Gly Gln Thr Val Val Ser Arg
Asp Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro Ala
Tyr Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu Asn
Lys Asp Lys Leu Lys Asn Leu Ile Trp Ile His Asp Asn Leu Ala Gly Gly Ser Thr Asp Ile Val Tyr
Tyr Asp Asn Asp Glu Leu Ile Phe Val Arg Asn Gly Tyr Gly Ser Lys Pro Gly Leu Ile Thr Tyr Ile
Asn Leu Ala Ser Ser Glu Leu Ala Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ala Cys Ile His Glu
Tyr Thr Gly Asn Leu Gly Gly Trp Val Asp Lys Trp Val Asp Ser Ser Gly Trp Val Tyr Leu Glu Ala
Pro Ala His Asp Pro Ala Asn Gly Tyr Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 5

atggccaagtactccgagctggaaggggcgcgttataatgcaggccttctactgggacgtccaggtggaggaaatctgggtggacacat
caggagcaagatacggagtggtacgagcgggaataccgccatttgattccccggcaagcagggtatggcggcgccatttcgatg
ggctacgacctacgactctttgacctgggtgagtacgaccagaagggaacggtagagacgcgtttggctccaagcaggagctctgtaa
catgataaacacgcgccacgctatggcatgaaggtaatagccgatatagtcatcaaccaccgccggcggtgacctgagtggaacccctt
cgtgaacgactatacctggaccgactctcaaaaggtcgcgtcgggtaataacacggccaactactctgacttccaccggaacgagctcatgc
ggcgatccggaactattggaggtctatccgacatategccacgacaagagctgggaccagtagctggctctggccagccaaggagactac
gcggcatatcaccagagcatcggcatgatgctgtgcgttcgactacgtcaaggcctatgctccctgggctgtaaggactggctgaactgtg
ggggaggctggcggttggaagtagcttggaacacaaagctgacgctgttctcaactggcgatactcagcggtgcgaaggtcttgcattgc
cccttactacaagatggatgagggccttggacaacaaaacattccagcgctctctgctcccttcagaacggcgagactgttctcccgac
ccgttaaggcgtgaacctttgtagcaaacaccgacacgatataatctggaacagtagcttgccttatgcttctatctcactacgaagccag
ccgtcatatctaccgcgaccacgagagtggtcacaagagacaggttgaaacaacctataggatacacgaccacctcgaggtggaag
caccgacatagctactacgataaacgatgaactctcttcaggaacggctacgggacaagccgggcttataacctatacctacaacctgag
tcgagcaaggccggaaggtgggttatgtgcgaagttcggggcgctgtcatccacgagtatactgttaacctggaggtctgggtagacaa
gtactgtactcaagggcttgggtctatctgaagctccagcttaccgacctgccaacggcgagtagctactcgtgtggagctactcggg
gtggcgtga

SEQ ID NO.: 6

Met Ala Lys Tyr Ser Glu Leu Glu Gly Gly Val Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Gly
Gly Gly Ile Trp Trp Asp Thr Ile Arg Ser Lys Ile Pro Glu Trp Tyr Glu Ala Gly Ile Ser Ala Ile Trp
Ile Pro Pro Ala Ser Lys Gly Met Gly Gly Ala Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Phe Phe Asp
Leu Gly Glu Tyr Asp Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Val Asn
Met Ile Asn Thr Ala His Ala Tyr Gly Met Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly

Figure 16 (cont.)

Asp Leu Glu Trp Asn Pro Phe Val Asn Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys
Tyr Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Leu His Ala Gly Asp Ser Gly Thr Phe Gly Gly
Tyr Pro Asp Ile Cys His Asp Lys Ser Trp Asp Gln Tyr Trp Leu Trp Ala Ser Gln Glu Ser Tyr Ala
Ala Tyr Leu Arg Ser Ile Gly Ile Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Thr Val Pro Trp Val
Val Lys Asp Trp Leu Asn Trp Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Asp Thr Asn Val Asp Ala
Val Leu Asn Trp Ala Tyr Ser Ser Gly Ala Lys Val Phe Asp Phe Ala Leu Tyr Trp Lys Met Asp Glu
Ala Phe Asp Asn Lys Asn Ile Pro Ala Leu Val Ser Ala Leu Gln Asn Gly Thr Thr Val Val Ser Arg
Asp Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Leu Ala
Tyr Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Val Ile Phe Tyr Arg Asp His Glu Glu Trp Leu Asn
Lys Asp Arg Leu Asn Asn Leu Ile Trp Ile His Asp His Leu Ala Gly Gly Ser Thr Asp Ile Val Tyr
Tyr Asp Asn Asp Glu Leu Ile Phe Val Arg Asn Gly Tyr Gly Asp Lys Pro Gly Leu Ile Thr Tyr Ile
Asn Leu Gly Ser Ser Lys Ala Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ala Cys Ile His Glu
Tyr Thr Gly Asn Leu Gly Trp Val Asp Lys Tyr Val Tyr Ser Ser Gly Trp Val Tyr Leu Glu Ala
Pro Ala Tyr Asp Asp Pro Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 9

atggccaagtactccgagctggaagaaggcgggctcataatgcaggccttctactgggacgtccccatgggagggaatctgggggacacgat
agcccaagaagatacccgactgggcaagcgccgggatttcggcgatatggattccccggcgagcaaggcgatggcgggcgccctattcga
ggctacgacccccactagctacttcttgacctgggtgagctacgacacgaagggaacggtagagacgcgcttggctccaaggagagctcgtgaa
catgataaacaccggcccatgcctacggcctaagaaggtcatagcggacatcgtcataaacaccgcgcgagggggagacctcaggtggaacccg
ttcgttgggactacaactggacggaacttctcaaaaggctgacctgggcaaatatactgccaaactactcgaacttccaccggaacgagctccatg
cgggcgattccggaacatttggaggcgtatccgcacatagccacgacaaagagctgggacacgactggctcgtggcgacgcaaggagcgtac
goggcatactcaggagcatcggcatcagtgccctggcgcttcgactacgtcaaggctatgctccctgggtcgtcaaggactggctgaactggt
ggggagggctggggcggttggagagtactgggacacccaacgtcgacgcgtgttctcaactgggcatactcgaagggtgccaaggcttctgacttcg
cccttactacaagatggacgagggccttcgataacaacaacattccgcgccttggtagcgccctcagatagctgacagacatggtgtagcgcgcg
accctgtcaaggctgtgacggttggtagcaaccacgataccgatatactggacaagatccagcgttcacgttcacacacggggcgc
cagcgcgacataatttaccgcgaciacaggaagtggttcacaaaggataagctcaagaacctcatctggatatacgaacctcgcggaggg
aagcactgacatcgtttactacgacacgacgagctgatatccgcgagaacggcgcggaagcaagcgggactgataacatacaaacct
cgctcaagcaagcgggaagggtgttactgtccgaagttcgcaggctcgtgcatacacgagtagacacggcgaactcggcgcgctgggtgg
acaagtgggtgactcaagcggctgggtctacctcgaggtcctgccacgaccggcccaacggccagctacggctactcgtctggagcgtac
tgcggtgttgggtga

SEQ ID NO.: 10

Met Ala Lys Tyr Ser Glu Leu Glu Glu Gly Gly Leu Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Met
Gly Gly Ile Trp Trp Asp Thr Ile Ala Gln Lys Ile Pro Asp Trp Ala Ser Ala Gly Ile Ser Ala Ile Trp
Ile Pro Pro Ala Ser Lys Gly Met Gly Gly Ala Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Phe Phe Asp
Leu Gly Glu Tyr Asp Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Val Asn
Met Ile Asn Thr Ala His Ala Tyr Gly Ile Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly
Asp Leu Glu Trp Asn Pro Phe Val Gly Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys
Tyr Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Leu His Ala Gly Asp Ser Gly Thr Phe Gly Gly
Tyr Pro Asp Ile Cys His Asp Lys Ser Trp Asp Gln Tyr Trp Leu Trp Ala Ser Gln Glu Ser Tyr Ala
Ala Tyr Leu Arg Ser Ile Gly Ile Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Ala Pro Trp Val
Val Lys Asp Trp Leu Asn Trp Trp Gly Gly Trp Ala Val Gly Glu Trp Asp Thr Asn Val Asp Ala
Val Leu Asn Trp Ala Tyr Ser Ser Gly Ala Lys Val Phe Asp Phe Ala Leu Tyr Trp Lys Met Asp Glu
Ala Phe Asp Asn Asn Asn Ile Pro Ala Leu Val Asp Ala Leu Arg Tyr Gly Gln Thr Val Val Ser Arg
Asp Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro Ala
Tyr Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu Asn
Lys Asp Lys Lys Lys Asn Leu Ile Trp Ile His Asp Asn Leu Ala Gly Gly Ser Thr Asp Ile Val Tyr
Tyr Asp Asn Asp Glu Leu Ile Phe Ala Arg Asn Gly Tyr Gly Ser Lys Pro Gly Leu Ile Thr Tyr Ile
Asn Leu Ala Ser Ser Lys Asp Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ser Tyr Cys Ile His Glu

Figure 16 (cont.)

Tyr Thr Gly Asn Leu Gly Gly Trp Val Asp Lys Trp Val Asp Ser Ser Gly Trp Val Tyr Leu Glu Ala
Pro Ala His Asp Pro Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 11

atggccaagtaactctggagctcaggaggcggggctcataatgcaggcccttactgggaactgcccatgggagggaatctgggtgggacacgat
agcccaagagaatacccgactggcgcaagcgccgggatttcggcgatattggattccccggcgagcaaggcgatggcgcgccctattcgatg
ggctacgaccctacgactctttgacctcgttgagctacgaccagaagggaacggcgcttggctccaaagcgaggagctcgtgaa
catgataaacaccgccacgctctatggcatgaaggtaatagccgatatagtcatcaacaccgcgcgcggcggtgacctggaggtggaacccctt
cgtgaacgactatactggaccgacttcaaaagtcgctcgggtaaatatcacggccaactacctgacttcaacccgaacgagctccatgc
ggcgctcgggcaactttggagcttaccgacatatgccagacaaagagctgggacagacttggcttggggcagccgacgagactac
gcgcgcatatctaggagcatcgggcatcgatgcctggcgcttcgactacgtcaagggtgatgctccctgggtcgtcaaggactggctgaactggt
ggggaggctggggcggttggagtagtctgggacaccaacgtcgacgctgttctcaactgggcatactcagcgggtgccaaggcttcttgacttcg
cccttactacaagatggcagggccttcgataacaacacattcccgccctgggtggagccctcagatagcgtcagacagtggtgacgcgcg
accggttcaaggctgtgacgtttgtagccaaccacgataccgataatacttggaacaagtatccagctacgctgttcatctcactacgagggc
cagcgacaataattctaccgcgactacgaggagtggtctcaacaaggatagctcaagaacctcatcttggaatacatgacaacctcggcggagg
aagcagagcatagttactacgacagcgagatgattctcgtggaggaacggctatgggaagcaacgctggccttataactatcatcaacctc
ggctcgagcaaggttggaaaggttggtctacgttccgaagttcggggagcgtgcatccacgagatcacggcaacctcggcggttgggtggt
acaagtggttgagcatcaagcggggtgggtgacttcgagggccctcgccacgaccgcgccaacggctattacggctactcctcgtcgtgagctac
tgcgggtgttgctga

SEQ ID NO.: 12

Met Ala Lys Tyr Leu Glu Leu Glu Gly Gly Leu Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Met
Gly Gly Ile Trp Trp Asp Thr Ile Ala Gln Lys Ile Pro Asp Trp Ala Ser Ala Gly Ile Ser Ala Ile Trp
Ile Pro Pro Ala Ser Lys Gly Met Gly Gly Ala Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Phe Phe Asp
Leu Gly Gly Thr Asp Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Val Asn
Met Ile Asn Thr Ala His Ala Tyr Gly Met Lys Val Ile Asp Ile Val Ile Asn His Arg Val Gly Gly
Asp Leu Glu Trp Asn Pro Phe Val Asn Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys
Tyr Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Leu His Ala Gly Asp Ser Gly Thr Phe Gly Gly
Tyr Pro Asp Ile Cys His Asp Lys Ser Trp Asp Gln Tyr Trp Leu Trp Asn Ser Gln Glu Ser Tyr Ala
Ala Tyr Leu Arg Ser Ile Gly Ile Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Ala Pro Trp Val
Val Lys Asp Trp Leu Asn Trp Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Asp Thr Asn Val Asp Ala
Val Leu Asn Trp Ala Tyr Ser Ser Gly Ala Lys Val Phe Asp Phe Ala Leu Tyr Tyr Lys Met Asn Glu
Ala Phe Asp Asn Asn Asn Ile Pro Ala Leu Val Asp Ala Leu Arg Tyr Gly Gln Thr Val Val Ser Arg
Asp Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro Ala
Tyr Ala Phe Ile Leu Thr Tyr Gly Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu Asn
Lys Asp Thr Leu Lys Asn Leu Ile Trp Ile His Asp Asn Leu Ala Gly Gly Ser Thr Ser Ile Val Tyr
Tyr Asp Ser Asp Glu Met Ile Phe Val Arg Asn Gly Tyr Gly Ser Lys Pro Gly Leu Ile Thr Tyr Ile
Asn Leu Gly Ser Ser Lys Val Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ala Cys Ile His Glu
Tyr Thr Gly Asn Leu Gly Gly Trp Val Asp Lys Trp Val Asp Ser Ser Gly Trp Val Tyr Leu Glu Ala
Pro Ala His Asp Pro Ala Asn Gly Tyr Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 13

atggccaagtaactctggagctcaggaggcggggctcataatgcaggcgcttactgggagctgcttcaggaggaaatgtggtggacacaat
acggcagaagataccgagtggtgacgatgcggaaatccgcaatatggattccccggcgagcaaggcgatggcgcgccctatttcgatg
ggctacgaccctacgactctttgacctcggtagtatgaccagaagggaacggtgagacgcgcttggctcctcaagcaggagctcgtgaac
atgataaacacggcaatgctctacgcatgaaggttcatacgggaactcgtcataaacaccaccgcgcaggcgagacactcagtggaaccggt
cgttgggactacacctggcggacttccaaagtggtgcctcgggcaaatatctccaactacctgacttccaccccaacgaggtcaagtg
ctgtgacgagggcacatttgagggtctccagacatagccacagagaagagctgggacacagctgctcgtggcgagcgtatgagagctac
gcgcctacttaaggacatcggcgttgatcgtgcgcgttcgactacgtcaagggtctacggaacgttgggtcgtcaaggactggctggactg
gtggggagctggcgctcggggagtagctgggacacaacggtgatgcactgctcaactgggctactcagcgtgatgcaaaagtcttcgactt

Figure 16 (cont.)

cccgctctactacaagatggatgaggccctttgacaacaaaaaattccagcgctgctctgcccttcgacagggccagactgtgtctcccgcg
accggtcaaggccgttaacctttgtagcaaacacgacacccgatatatactggaaacagtatccagctacgctgttacctcactacagagg
ccagccgacatatcttaccgcgactacgaggatgtgctcaacaaggataagctcaagaacctcatctggatacatgacaacctcgcggag
gaagcactgacatagtctactacgataacgatgaactcatcttctgacgaacggctacggggacaaagccgggcttataactacatacaact
aggctcagacaaggccggagggtgtttatgtgcccgaagtgccggcgcggtgcatccacagagtatactgtgaacctggagcgctggtag
acaagtagcttactacaagcggtggtctatctcgaagctccagcttacgacctgccaacgggcagtagtgctactcgtgtggagctactg
cgggttggtgta

SEQ ID NO.: 14

Met Ala Lys Tyr Leu Glu Leu Glu Gly Gly Val Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Ser
Gly Gly Ile Trp Trp Asp Thr Ile Arg Gln Lys Ile Pro Glu Trp Tyr Asp Ala Gly Ile Ser Ala Ile Trp
Ile Pro Pro Ala Ser Lys Gly Met Gly Gly Ala Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Phe Asp
Pro Gly Glu Tyr Asp Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Val Asn
Met Ile Asn Thr Ala His Ala Tyr Gly Ile Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly
Asp Leu Glu Trp Asn Pro Phe Val Gly Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys
Tyr Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Val Lys Cys Cys Asp Glu Gly Thr Phe Gly
Gly Phe Pro Asp Ile Ala His Glu Lys Ser Trp Asp Gln His Trp Leu Trp Ala Ser Asp Glu Ser Tyr
Ala Ala Tyr Leu Arg Ser Ile Gly Val Asp Ala Trp Arg Phe Asp Tyr Val Lys Tyr Gly Ala Trp
Val Val Lys Asp Trp Leu Asp Trp Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Asp Thr Asn Val Asp
Ala Leu Leu Asn Trp Ala Tyr Ser Ser Asp Ala Lys Val Phe Asp Phe Pro Leu Tyr Tyr Lys Met Asp
Glu Ala Phe Asp Asn Lys Asn Ile Pro Ala Leu Val Ser Ala Leu Gln Asn Gly Gln Thr Val Ser Met
Arg Asp Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro
Ala Tyr Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu
Asn Lys Asp Lys Lys Lys Asn Leu Ile Trp Ile His Asp Asn Leu Ala Gly Gly Ser Thr Asp Ile Val
Tyr Tyr Asp Asn Asp Glu Leu Ile Phe Val Arg Asn Gly Tyr Gly Asp Lys Pro Gly Leu Ile Thr Tyr
Ile Asn Leu Gly Ser Ser Lys Ala Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ala Cys Ile His
Glu Tyr Thr Gly Asn Leu Gly Gly Trp Val Asp Lys Tyr Val Tyr Ser Ser Gly Trp Val Tyr Leu Glu
Ala Pro Ala Tyr Asp Ala Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Tyr Ser Cys Gly Val Gly

SEQ ID NO.: 15

atgccaagtactccgagctggaagagggcgggcctataatgcaggccttctactgggacgtccccatgggagggaatctggtggacacgat
agcccaagaagataccgactgggcaagcgccgggatttcggcgatatggattccccggcgagcaaggagactggcgcgccctattctgatg
ggctacgacctcactgactcttttgacctcgggtgagtacgaccagaagggaacggtagagacgcgtttggctccaagcaggagctcgtgaa
catgataaacacggcccatgcctacggcataaaggctatagcggacatcgtcataaacaccgcgcgagggcgagactcgagtggaacccg
ttcgttggcgatacaactcggacggactcttcaaaagggtggcctcgggcataatctgcgaactacctcgaacttccaccggaaacgagctcatg
cggcgatttcgggaactttggaggtctaccgacatagccacgacaagagctgggacacactgctcgttggcgacggcaggagagctac
ggcgcatatctcaggaacatcggcatgcctgctgctggccttcgactgcaaggcctacggagcgtgggtcgtcaaggactggctggaactg
gtggggaggctggcgctcgtggggagtactcggacacaaacgttgatgcactgctcaactggcgctactcagcgcgatgcaaaagtcttcgactt
cccgcttactacaagatggatgaggccctttgacaacaaaaaattccagcgctgctctgcccttcgaacggcgagactgtgtctcccgcg
accgttcaaggccgttaacctttgtagcaaacacgacacccgatatataattggaaacagttaccgggctacgcttctcactacacagagg
ccagcggacgataattctacgcgactacgaggagtggtcacaacaggacggctcaagaacctcatctggatacacgaccacctgcgggtg
gaagcactgcacatcgtttactacgacaacgacgagctgataattctgtagaacaaggctcaggaagcaagccgggactgataacatacataacc
tcgcttcaagcaagcgggaaggtgggtttatgtgccgaagtctcgccggcgcggtgcatccacgagtagactactgttaacctggagcgtggtag
acaagtagcttactacaagcggctggtctatctcgaagctccagcttacgacctgccaacgggcagtagtgctactcgtgtggagctattgc
ggtgttggtgta

SEQ ID NO.: 16

Met Ala Lys Tyr Ser Glu Leu Glu Gly Gly Leu Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Met
Gly Gly Ile Trp Trp Asp Thr Ile Ala Gln Lys Ile Pro Asp Trp Ala Ser Ala Gly Ile Ser Ala Ile Trp
Ile Pro Pro Ala Ser Lys Gly Met Gly Gly Ala Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Phe Phe Asp

Figure 16 (cont.)

Leu Gly Glu Tyr Asp Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Val Asn
Met Ile Asn Thr Ala His Ala Tyr Gly Ile Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly
Asp Leu Glu Trp Asn Pro Phe Val Gly Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys
Tyr Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Leu His Ala Gly Ser Gly Thr Phe Gly Gly
Tyr Pro Asp Ile Cys His Asp Lys Ser Trp Asp Gln Tyr Trp Leu Trp Ala Ser Gln Glu Ser Tyr Ala
Ala Tyr Leu Arg Ser Ile Gly Ile Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Gly Ala Trp Val
Val Lys Asp Asp Trp Leu Asp Trp Gly Gly Trp Ala Val Gly Glu Tyr Asp Thr Phe Gly Thr Ala
Leu Leu Asn Trp Ala Tyr Ser Ser Asp Ala Lys Val Phe Asp Phe Pro Leu Tyr Tyr Lys Met Asp Glu
Ala Phe Asp Asn Lys Asn Ile Pro Ala Leu Val Ser Ala Leu Gln Asn Gly Gln Thr Val Val Ser Arg
Asp Pro Phe Lys Ala Glu Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro Ala
Tyr Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu Asn
Lys Asp Arg Leu Lys Asn Leu Ile Trp Ile His Asp His Leu Ala Gly Ser Thr Asp Ile Val Tyr
Tyr Asp Asn Asp Glu Leu Ile Phe Val Arg Asn Gly Tyr Gly Ser Lys Pro Gly Leu Ile Thr Tyr Ile
Asn Leu Ala Ser Ser Lys Ala Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ala Cys Ile His Glu
Tyr Thr Gly Asn Leu Gly Gly Trp Val Tyr Ser Lys Tyr Val Tyr Ser Gly Trp Val Tyr Leu Glu Ala
Pro Ala Tyr Asp Pro Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 17

atgccaaagtactccagctggaagggggcggggtcataatgcaggccttactgggacgtcccatggggaagatctgtgggacacgat
agcccaagaataccgactgggcaagcgccggatttggcgatgatggattcccccgcgagcaaggccatggggcgccctattcgtatg
ggctacgacccctacgacttcttggacccgttgtagtacgaccaggagggaacggttagagacgcgcttggctccaagcaggagctctgaa
catgataaacacggcccatgcctacggcataaaggctcatagcggacatcgtcataaacacgcgcaggcgaggacctcagtggaacccg
ttcgttgggaactaacctggacggaacttcaaaaggtggccctgggcaatatatactgccaactactcgaactccaccacaacgaggtcga
gctgtgcagaggacacatttggaggcttccagacatagccacgagaagagctgggacacgactggctctggcgagcgtatgagagcta
cgccgcctacttaaggacatcgccgttgatgcctggcgttcgactacgtcaagggtcagcgagcgtggtcgtcaaggactgctggact
ggttggggaggtcggccgcctgggggaactggggacacaaacgttgatgcactgctcaactggcctactcagcgtatcgcaaaagcttcgac
ttccgcgtctactacaagatggacggcgttggatgacaacaagaacattccgcactctgctgaggccctcaagaacgggggcacagtctcagc
cgcgaccgtttaaggccgttaacctctggttcaaacaccgacaccgatataatctggaacaagtatccagctacgcgttcatctcactacga
gggcagccgcgacaatatctaccgcgactacgaggagtggtcctcaacaaggataagctcaagaacctatctgatacatgacaacctcggc
gagggaagcagcagcatagttaactacgacagcgacgagatgatcttctgagggaacggctatggaagcaagcctggccttataacttaacataa
cctcggctcgagcaaggttgaaggtgggtttacgttccgaagttcgcaggtctgtgcatacagcagatcacccgcaatcctggcggtgggt
ggacaagtggttggaactcaagcggtcgggttacctcgaagctcctgccacgaccggccaacggccagatcggtcactctgctgaggac
tactcgggtgttgggtga

SEQ ID NO.: 18

Met Ala Lys Tyr Ser Glu Leu Glu Gly Gly Leu Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Met
Gly Gly Ile Trp Trp Asp Thr Ile Ala Gln Lys Ile Pro Asp Trp Ala Ser Gly Ile Ser Ala Ile Trp
Ile Pro Pro Ala Ser Lys Gly Met Gly Gly Ala Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Phe Phe Asp
Leu Gly Glu Tyr Asp Gln Glu Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Val Asn
Met Ile Asn Thr Ala His Ala Tyr Gly Ile Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly
Asp Leu Glu Trp Asn Pro Phe Val Gly Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys
Tyr Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Val Lys Cys Cys Asp Glu Gly Thr Phe Gly
Gly Phe Pro Asp Ile Ala His Glu Lys Ser Trp Asp Gln His Trp Leu Thr Ala Ser Asp Glu Ser Tyr
Ala Ala Tyr Leu Arg Ser Ile Gly Val Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Gly Ala Trp
Val Val Lys Asp Trp Leu Asp Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Asp Thr Asn Val Asp
Ala Leu Leu Asn Trp Ala Tyr Ser Ser Asp Ala Lys Val Phe Asp Phe Pro Leu Tyr Tyr Lys Met Asp
Ala Ala Phe Asp Asn Lys Asn Ile Pro Ala Leu Val Glu Ala Leu Lys Asn Gly Gly Thr Val Val Ser
Arg Asp Pro Phe Lys Ala Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro
Ala Tyr Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu
Asn Lys Asp Lys Leu Lys Asn Leu Ile Trp Ile His Asp Asn Leu Ala Gly Gly Ser Thr Ser Ile Val

Figure 16 (cont.)

Tyr Tyr Asp Ser Asp Glu Met Ile Phe Val Arg Asn Gly Tyr Gly Ser Lys Pro Gly Leu Ile Thr Tyr
Ile Asn Leu Gly Ser Ser Lys Val Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ser Cys Ile His
Glu Tyr Thr Gly Asn Leu Gly Gly Trp Val Asp Lys Trp Val Asp Ser Ser Gly Trp Val Tyr Leu Glu
Ala Pro Ala His Asp Pro Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 19

atggccaagtactcggagctcgaagaggcgccggtcctaatgcaggccttctactggagctccccatgggaggaatcgtgtgggacacgat
agcccaagaagataccgactgggaagcgccgggtattcggcgatattgattctcccgagcaagggtatgagcgccgctattcgatgg
gctacgaccctactgatttattgactttgtagtactaccagaagggaacgggtggaacagggttcgctcaaaagcaggagctcataaacat
atataaacgcgccatgctctacggcataaaggctcatagcggacatcgatataaacaccgcgcaggcgagagacctgagtggaacctgttc
gttgggactacacctggcagcggtctcaaaagggtgctcggcgaataatactgccaaactcctgacttcacccgaacgagctccatgagc
ggcgattccgggaacatttggagctatccgacatatgccacgacaagagctgggaccagttactggctctggccgacaggagagctacgc
ggcatalctcaggagcatcgccatcgatgctggcgcttgcactacgtcaagggtctatgctccctgggtctcaaggacttggctgaactgttgg
ggggcggtggcggttgagagtaactgggacaccaacgtcgacgtctgttcaactggcgatactcgagcggtgccaaaggtcttctgactgcc
ctctactcaaaagtggatgggaccttggacacaaacattccagcgctcgtctcgtcccttcagaacggcgacagactgttctcccgcgacc
gttcaaggcgctaacctttagtgaacacccagacaccgatataatttggaaacagtaccggcctactgccttcaactcactacgaggccag
ccgacgatatttaccgcgactacgagagtggtctcaacaaggacaggtcctaagaacctcatctgatacacgaccacctcgccggtgggaag
cactgacatctgttactacgacaacgacgagctgatatctgtggaacacggctacggaacggcggtgactgataacatacatacaactcgc
ctcaagcaaaagccgggaaggtgggtttatgtgccgaagtccggcgccgtgcatccagagcatatctgtaacctggagggtggttagaca
agtagctctactcaaggcgctgggtctatctcgaagctcagattacgacctgccaacggcgatgtgctactcgtgtggagctactgcgg
tgttgctgta

SEQ ID NO.: 20

Met Ala Lys Tyr Leu Glu Leu Glu Gly Gly Leu Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Met
Gly Gly Ile Trp Trp Asp Thr Ile Ala Gln Lys Ile Pro Asp Trp Ala Ser Ala Gly Ile Ser Ala Ile Trp
Ile Pro Ala Ser Lys Met Ser Gly Gly Tyr Ser Met Gly Tyr Ser Met Gly Tyr Asp Gly Tyr Tyr Phe Asp
Leu Gly Glu Tyr Tyr Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Ile Asn Met
Ile Asn Thr Ala His Ala Tyr Gly Ile Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly Asp
Leu Glu Trp Asn Pro Phe Val Gly Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys Tyr
Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Leu His Ala Gly Asp Ser Gly Thr Phe Gly Gly Tyr
Pro Asp Ile Cys His Asp Lys Ser Trp Asp Gln Tyr Trp Leu Trp Ala Ser Gln Glu Ser Tyr Ala Ala
Tyr Leu Arg Ser Ile Gly Ile Asp Ala Trp Arg Phe Asp Tyr Lys Gly Tyr Ala Pro Trp Val Val
Lys Asp Trp Leu Asn Trp Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Asp Thr Asn Val Asp Glu Val
Leu Asn Trp Ala Tyr Ser Ser Gly Ala Lys Val Phe Asp Phe Ala Leu Tyr Thr Lys Met Asp Glu Ala
Phe Asp Asn Lys Asn Ile Pro Ala Leu Val Ser Ala Leu Gln Asn Gly Gln Thr Val Val Ser Arg Asp
Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro Ala Tyr
Ala Phe Ile Leu Thr Tyr Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu Asn Lys
Asp Arg Leu Lys Asn Leu Ile Trp Ile His Asp His Leu Ala Gly Gly Ser Thr Asp Ile Val Tyr Tyr
Asp Asn Asp Glu Leu Ile Phe Val Arg Asn Gly Tyr Gly Ser Pro Gly Leu Ile Thr Tyr Ile Asn
Leu Ala Ser Ser Lys Ala Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ala Cys Ile His Glu His
Thr Gly Asn Leu Gly Gly Trp Val Asp Lys Tyr Val Tyr Ser Ser Gly Trp Val Tyr Leu Glu Ala Pro
Ala Tyr Asp Pro Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 21

atggccaagtactcggagctggaagaggcgccggttataatgcaggccttctactggagctccagggtgagggaatcgtgtgggacacat
caggagcaagataccggagtggtgtagcagcgccgaatatccgcatgttgcctcccgaggagcaagggtatgagcgccgctattcgatgg
gctacgaccctactgatgttggacctgggtgagtactaccagaagggaacgggtggaacagaggttcggctcaaacgagagctcataaac
atgataaacacggccatgctctacgcgataaaggctcatagcggacatcgtcataaacaccgcgcaggcgaggagactcagtggaacctgtt
cgttgggactacacctggagcgactctcaaaagggtgctcgggcaataatactgccaaactcctgacttccaccggaacgagctccatgc
ggcggtatccgggaacatttggagctatcccgacatatgccacgacaagagctgggaccagttactgctctggccagccaggagagctac

Figure 16 (cont.)

gcgggtatctcaggagcatcggcctgatcgcttgcgcttgactacgtcaagggtacggagcgtgggtgctcaaggactgctggactg
gtggggaggctggggctgggggagtagctgggacacaaacgttgatgcactgctcaactgggctactcagcagatgcaaaagtcttcgactt
cccgtctactacaagatggatgagggcctttgacacaaaacattccagcgctctctctgcccttcagaagggcagagactgtgtctccggc
accggttcaaggcgctaacctttgtagcaaacacgcgacaccgatataattggaaacagtaccggcgctacgccttcatctcaccacagggg
ccagccgacgatattctaccgcgactacgaggagtggtgtcaacaaggacaggtcacaagaacctcatcttgatatacagactacctccgggtg
gaagcactgacatctgttactacgacacgacgagctgattctgtgagaaacgggctacgggaagcaagccgggactgatacatcatacaacc
tcgctcacaagcaagccggaaggtgggtttatgtgccgaagtgcggcgctgcctaccacagatatactgttaacctggaggtcgggtag
acaagtacgtctactcaaggcgctgggtctatctcgaagctccagcttacgacctgccaacgggcatgtgctactcctgtggagctatgctg
gtgtgttgctga

SEQ ID NO.: 22

Met Ala Lys Tyr Ser Glu Leu Glu Glu Gly Gly Val Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Gly
Gly Gly Ile Trp Trp Asp Thr Ile Arg Ser Lys Ile Pro Glu Trp Tyr Glu Ala Gly Ile Ser Ala Ile Trp
Ile Pro Pro Gly Ser Lys Gly Met Ser Gly Gly Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Asp Leu Asp
Leu Gly Gly Tyr Tyr Gln Lys Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Ile Asn Met
Ile Asn Thr Ala His Ala Tyr Gly Ile Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly Asp
Leu Glu Trp Asn Pro Phe Val Gly Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys Tyr
Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Leu His Ala Gly Asp Ser Gly Thr Phe Gly Gly Tyr
Pro Asp Ile Cys His Asp Lys Ser Trp Asp Gln Tyr Trp Leu Trp Ala Ser Gln Glu Ser Tyr Ala Val
Tyr Leu Arg Ser Ile Gly Ile Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Gly Ala Trp Val Val
Lys Asp Trp Leu Asp Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Asp Thr Asn Val Asp Ala
Leu Leu Asn Trp Ala Tyr Ser Ser Asp Ala Lys Val Phe Asp Phe Pro Leu Tyr Tyr Lys Met Asp Glu
Ala Phe Asp Asn Lys Asn Ile Pro Ala Leu Val Ser Ala Leu Asn Gly Gln Thr Val Val Ser Arg
Asp Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro Ala
Tyr Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu Asn
Lys Asp Arg Leu Lys Asn Leu Ile Trp Ile His Asp Tyr Leu Ala Phe Gly Ser Thr Asp Ile Val Tyr
Tyr Asp Asn Asp Glu Leu Ile Phe Val Arg Asn Gly Tyr Gly Ser Lys Pro Gly Leu Ile Thr Tyr Ile
Asn Leu Ala Ser Ser Lys Ala Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ala Cys Ile His Glu
Tyr Thr Gly Asn Leu Gly Gly Trp Val Asp Lys Tyr Val Tyr Ser Gly Trp Val Tyr Leu Glu Ala
Pro Ala Tyr Asp Pro Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 23

atggccaagtactcctgagctggaagaggcgccgttatatgfcaggcccttactgggacgtccagggtgaggaaatctgggtggacacat
caggagcaagataccggagtggtacgaggcggaataatccgccatttggattccccggcgagcaagggtcagggcgccctattcgtatg
ggctacgacctactacgtcttggaccctcgttgtagtacgaccagaagggaacggtagagacgcgtttggctccaagcaggagctcgtgaa
catgataaacacggcccatcgctacggcataaaggctatagcggacatcgtcataaacaccacgcgcaggcggaagactcgtggaacccg
ttcgttgggacactcactggacgacgttccaaagggtgcctcgggcaaatatactgccaatctcgcactcctcgtctccaccgaacgagctcatg
cggcgattccggaaattggaggctatccgcacatatgccacgacaagagctgggaccagtactggcttggggcagccaggagaagctac
gcggcatatctcaggagcatcggcatgatcgtcgtgcgcttcgactacgtcaagggtcactcaggagcgttgggtcgtcaaggactggtgactg
gtggggagcctggcgccctcggggagtagtgggacacaaacgttgatgcactgctcaactgggcctacacgagcgtgcacaaagtcttgactt
cccgtctactacaagatgatgagcccttggacaacaaaacattccagcgctcgtctctgcccttcagaagggcgagactgtgtctcccg
accgttcaaggcgtaaccttltgtagcaaacacgacacccgatataatctggaacaagtatcagcctacgcgttcatctcactacagggg
ccagccgacaaattactaccgcgactacgaggagtggtcacaaggataagcacaacgtcattggtatatacagtaacacactcgcggag
gaagcatgagcatagtgtactacgacgagcagatgactcttgtaggaacggctatggaagcaagccgtggccctataactacatcaacctc
ggctcagcaaggttggaaggtgggtcactgttccgaagttcgcgggagcgtgcatacacgagtaacgtcggcggtcgtgggtg
acaagtgggtggactcaagcggtgggtgtactcctgagggccctgccacgacccggccaacggctattacggctactcgtctggagctatt
gggtgttggtga

SEQ ID NO.: 24

SEO ID NO.: 25

ATGCGAAGTCACTGAGCTGCAAGAGGGCGGCTCATCTGGGAGTCCCATTGGGGAAGATCGTGGGACACGAT
AGCCCGAAGATACCCGCTGAGTCAACCGCTGGATCTGGGAGTATCGGCGAGCAAGGTGTATAGCGCGGCTCATGAG
GATCAACCCCTACGATGATTATTCGACGCGGAGTACTACCAAGAGGAACGCTGTGCGGCGGCTCAAGCAGGATCAATAACAT
GTAACCGCGCCCGCCTATGCGTGAAGGTAATAGCGATATCATCAACCACCGCGCGCGGTGACCTGGAATGGAACCCCTCTGT
GAAGCATACTACCTCAAGGACTTCAAGGCTGCGTGTGCTTAATACACGGCCAACTACTCGATCCACCAGCAGAGCTCCATCGGG
CATTCGCGAAGCAATTTGGAGGCTATCCGCATATGCGACGACGAAGCCTGGGCTGAGGCTGCTGCGCGACGCAAGAGTACATCGG
GATATCTCAAGGATCGGCACTGATCGCTGGCTTGACTACGTAAGGGCTATGCTCCCTGGTGTCAAGGACTGCTGCAACTGTTGG
AGCTGGGGCGTGGGATGATGAGTCAAGCAACCACTGACGCTGCTTGTGAGGAGTATCGAGCGTGGCGAAGCTGTTGATCGCCCT
TACTACAAGTGGACGAGCGCTTGATAACAACAATCCGCTGCTGTGGCGCTGATGAGGCTGACAGACTGTACACCGCGAACC
GTTCAAGGCTGTGACGTTGTAGCAACCACGATACGATATAACTGGAACTATGATCCAGCTGATCACTCACTACCGGAGCGGACG
CGACAAATATTCACCGGATCATGAGGTTGGTCAACAAAGCTAAGCTCACTGATCAATGACAACTCGCGGAGGAAGC
ACGACATATCTACTATGATAACGATCACTGATCTGAGGACCGGCTACGGGAGCAAGCGGGCTTAACTATCAATCAACATGGGT
CGAGCAAGGCCGAAGGTTGGTTTACGTCGAAGTTCGAGGCTGTGCATACACGATCAACCGCAATCGCGGCGTGGTGGACAA
GTGTGGTGTCAACGCGCTGGTCTACGAGGCTCTGCCACGACCCGGCCAACGGCCAGTGGGTACTCTGCTGCGTATTCG
GTTGGTGGTGA

Met Ala Lys Tyr Leu Glu Leu Glu Gly Gly Leu Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Met Gly Gly Ile Trp Trp Asp Thr Ile Ala Gln Lys Ile Pro Asp Trp Ala Ser Ala Gly Ile Ser Ala Ile Trp Ile Pro Pro Ala Ser Lys Gly Met Ser Gly Gly Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Trp Phe Asp Leu Gly Glu Tyr Trp Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Ile Asn Met Ile Asn Thr Ala His Ala Tyr Gly Met Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly Asp Leu Glu Trp Asn Pro Phe Val Asn Asp Tyr Trp Thr Thr Asp Phe Ser Lys Val Ala Ser Gly Lys Tyr Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Leu His Ala Gly Asp Ser Gly Thr Phe Gly Gly Tyr Pro Asp Ile Cys His Asp Lys Ser Trp Asp Gln Tyr Trp Leu Trp Lys Ala Ser Gln Glu Tyr Trp Ala Val Tyr Leu Arg Ser Ile Gly Ile Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Ala Pro Trp Val Val Lys Asp Trp Leu Asp Trp Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Asp Thr Asn Val Asp Ala Val Leu Asn Trp Ala Tyr Ser Ser Gly Ala Lys Val Phe Asp Phe Ala Leu Tyr Tyr Lys Met Asp Ala Val Phe Asp Asn Asn Asn Ile Pro Ala Leu Val Gly Ala Leu Arg Tyr Gly Gln Thr Val Val Ser Arg Asp

Figure 16 (cont.)

Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro Ala Tyr
Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu Asn Lys
Asp Lys Leu Lys Asn Leu Ile Trp Ile His Asp Asn Leu Ala Gly Gly Ser Thr Asp Ile Val Tyr Tyr
Asp Asn Asp Glu Leu Ile Phe Val Arg His Gly Tyr Gly Asp Lys Pro Gly Leu Ile Thr Tyr Ile Asn
Leu Gly Ser Ser Lys Ala Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ser Cys Ile His Glu Tyr
Thr Gly Asn Leu Gly Gly Trp Val Asp Lys Trp Val Asp Ser Ser Gly Trp Val Tyr Leu Glu Ala Pro
Ala His Asp Pro Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 27

atggcacaagtatccgagctcgaaggcggcgcttataatcagcccttctactgggacgtcccaaggaggaggaatctgggggacaccatc
aggagcaagataccggatgtgtagcaggcgggaatatccgccatttggaattctcccgagcaagggtatgaaggcggcgctattcgatggg
ctacgacccctacgattatttgcacctgggtgagtactaccagaagggaacgggtgaacagggttcgctcgaacagcgtcacaatacatg
ataaacacggcccatgectacggcataaaggfcatagcggacatgcatataaacaccggcgaggcgaggacacctgaaggacccgttcgt
tggggactacacctggcggcattctcaaaagggtggcctcgggcaataatactgccaactacctcgaattccaccgaacgagctcatgaggg
cgattccggaacatttggagctatccgacatatgccaagagcgtgggaccagtagtgcgtctggcgccagcaggagagctacggg
catactcaggagcatcggcatcgctggcgcttcgactactgcaagggtatgctccctgggtcgtcaaggactgctgaactgggtggg
aggctggcggttgagagtagctgggacaccaacgtcgacgtctgtcacaactggcactacgaagggtggcgaagggtcttgactcggcctc
tactacaagatgtagcggcgctttgacaacaagaacattccgcactcgtcaggccctcaagaacggcgccgacagtcgtcagcggcgacc
cgtttaaggccgtgaacctctgttgaaccacgacacacgataatctggaacaagtagtaccagctcagcgttctactctacctacgaggccga
ccgacaaatattctacgcgactacgaggaagggtcacaagaagataagctcaagaacctatctggatacatgaacctcggcggaagg
cactgacatcgtttactacgacacgacgagctgatatcttgagaacccgctacgggaagcaagccggagctgataacatacatcaacctcgc
gtcaagcaaacggcggaagggtgggttactgttcggaggttcgcaggcctcgtgcatacagcagtagtacaccggcaactcggcggtgggtgaca
agggtgggtgactacaagcgctgggtctacctcgaagctcctcccacgacccggccaaggccagtagcgtactcgtcgtcgtgactactgc
gtgtgtgggtga

SEQ ID NO.: 28

Met Ala Lys Tyr Ser Glu Leu Glu Glu Gly Gly Val Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Gly
Gly Gly Ile Trp Trp Asp Thr Ile Arg Ser Lys Ile Pro Glu Trp Tyr Glu Ala Gly Ile Ser Ala Ile Trp
Ile Pro Pro Ala Ser Lys Gly Met Ser Gly Gly Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Tyr Phe Asp
Leu Gly Glu Tyr Tyr Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Ile Asn Met
Ile Asn Thr Ala His Ala Tyr Gly Ile Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Lys Asp
Leu Glu Trp Asn Pro Phe Val Gly Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys Tyr
Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Leu His Ala Gly Asp Ser Gly Thr Phe Gly Gly Tyr
Pro Asp Ile Cys His Asp Lys Ser Trp Asp Gln Tyr Trp Leu Trp Ala Ser Gln Glu Ser Tyr Ala Ala
Tyr Leu Arg Ser Ile Gly Ile Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Ala Pro Trp Val Val
Lys Asp Trp Leu Asn Trp Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Asp Thr Asn Val Asp Ala Val
Leu Asn Trp Ala Tyr Ser Ser Gly Ala Lys Val Phe Asp Phe Ala Leu Tyr Tyr Lys Met Asp Ala Ala
Phe Asp Asn Lys Asn Ile Pro Ala Leu Val Glu Ala Leu Lys Asn Gly Gly Thr Val Val Ser Arg Asp
Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro Ala Tyr
Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Arg Trp Leu Asn Lys
Asp Lys Leu Lys Asn Leu Ile Trp Ile His Asp Asn Leu Ala Gly Gly Ser Thr Asp Ile Val Tyr Tyr
Asp Asn Asp Glu Leu Ile Phe Val Arg Asn Gly Tyr Gly Ser Lys Pro Gly Leu Ile Thr Tyr Ile Asn
Leu Ala Ser Ser Lys Ala Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ser Cys Ile His Glu Tyr
Thr Gly Asn Leu Gly Gly Trp Val Asp Lys Trp Val Asp Ser Ser Gly Trp Val Tyr Leu Glu Ala Pro
Ala His Asp Pro Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 29

atggccaagtactcggagctcgaaggcggcgctcataatcagcccttctactgggacgtcccatgggaaggaatctgggtggacacggt
agcccagaagataccgactgggcaagcgccggatttcggcgatatgattccccggcgagcaaggcatggcgcgctatttcgatg
ggctacgacctacgactcttttgacctgggtgagtagcaccagaagggaacggtagagacgcgctttggctccaagcaggactcgtga

Figure 16 (cont.)

catgataaacacggcccatgctcatggcataaaaggtcatagcggacatcgtcataaacaccgcgcaggcggagacctcagtggaaccg
ttgttggggacacacattggacggactctcaaaaggtgtctcgggcaaatatctgccaactacctgacttcaccgaacgagctcatgc
ggcgatccgggaacatttgaggctatccgacatatgccacgacaaggactgggaccagtactgctctgggcagccaggagagctac
gcggcatatctaggagcattcggacatcgtgcttggcgttcgactacgtcaagggtctgctccgtggctcgtcaaggacttgctgaactgtt
ggggagcttggcggttggagagcttgggacacacacgtgcacgctgttccaactgggcatactcgaagcgttgaacaggtcttggacttcg
cccttactacaagatggatgagggccttgacaacaaaacattccagcgtcgtctcgtcccttcaagaacggccagactgtgttccgcgcag
ccgtcaaggcgtgaacctgttgacaacccagacaccgatalaacttggacaagcttactgttacttccctacgtacacgaaggccag
ccgtctattctaccgcgactacgaggagtggtctcaacaaggacaggttgacaacacctatattgatacagaccacctcgcagggggaag
caccgacatagtctactcagataacgatgaatcatcttctgacgaacggctacggggacaagccggggcttataacctacatcaacctaggc
tcgaagaaggcgtgaacgtgggtttatgtgccgaagttcggggcgcgtgcatccacgagtatacttgtaaacctggaggcgtggtagacaa
gtactgtactcaagcggctgggtctatctcgaagctccagcttacgacctgccaacgggcagtatggtactcctgtgtggagctactcgggt
gttgggtga

SEQ ID NO.: 30

Met Ala Lys Tyr Leu Glu Leu Glu Glu Gly Gly Leu Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Met
Gly Gly Ile Trp Trp Asp Thr Val Ala Gln Lys Ile Pro Asp Trp Ala Ser Ala Gly Ile Ser Ala Ile Trp
Ile Pro Pro Ala Ser Lys Gly Met Gly Gly Ala Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Phe Phe Asp
Leu Gly Gly Tyr Asp Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Gly Leu Val Asn
Met Ile Asn Thr Ala His Ala Tyr Gly Ile Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly
Asp Leu Glu Trp Asn Pro Phe Val Gly Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Val Ser Gly Lys Tyr
Trp Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Leu His Ala Gly Tyr Ser Gly Thr Phe Gly Gly
Tyr Pro Asp Ile Cys His Asp Lys Ser Trp Asp Gln Tyr Trp Leu Trp Ala Ser Gln Glu Ser Tyr Ala
Ala Tyr Leu Arg Ser Ile Gly Ile Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Ala Pro Trp Val
Val Lys Asp Ser Trp Leu Asn Trp Gly Gly Trp Val Ala Val Gly Trp Asp Thr Asn Val Asp Ala
Val Leu Asn Trp Ala Tyr Ser Ser Gly Ala Lys Val Phe Asp Phe Ala Leu Tyr Trp Lys Met Asp Glu
Ala Phe Asp Asn Lys Asn Ile Pro Ala Leu Val Ser Ala Leu Gln Asn Gly Gln Thr Val Val Ser Arg
Asp Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Leu Ala
Tyr Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Val Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu Asn
Lys Asp Arg Leu Asn Asn Leu Ile Trp Ile His Asp His Leu Ala Gly Tyr Asp Ser Ile Val Tyr
Tyr Asp Asn Asp Glu Leu Ile Phe Val Arg Asn Gly Tyr Gly Asp Lys Pro Gly Leu Ile Thr Tyr Ile
Asn Leu Gly Ser Ser Lys Ala Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ala Cys Ile His Glu
Tyr Thr Gly Asn Leu Gly Gly Trp Val Asp Lys Tyr Trp Val Tyr Ser Ser Gly Trp Tyr Leu Glu Ala
Pro Ala Tyr Asp Pro Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 31

atggcaaaagtactccgagctggaagaaggcggcgttataatgcaaggctctactgggacgtcccaagggtggagaatctggtgggacacat
caggagcaggataccgagtggtacgaggggaatatccgccatttgattccccggcgagcaaggcctatggcgggccctattcgtatg
gctacgaacctcagactctttgaactcgttgactacgaccaggaagggaacggttagacgcgtttgttccaaagcaggagctcgtgaa
catgataaacacggcccatgctcatggcataaaaggtcatagcggacatcgtcataaacaccgcgcaggcggagacatcagtggtgaaccg
ttcgttggggagacactcaggcggactcttcaaaaggtgacctgggcaaatatactgccaactacctgaactccaccgaacgagctcag
cggcgatcttgggaacatttgaggctatccgacatatgccacgacaagagctgggacacgtactcgtcttggcccaagcaggaagctac
cgggcatatctcaggagcatcggacatcgtgcttggcgttggactacgtgaagggtctacggagcgtgggtcgtcaaggactggcctcaactgg
tggcgcgctggcgcggttggcgagctactgggacacacagctgtgatcactctcaactggcgctactcgaagcggcgcccaaggtcttcaacttc
ccgctctactacaagatggagcagcgttctgatacaacaacattccccgcctgtgtgacgcgcctcagatcagctcagcagctgtgttcaagccgc
gacccgtgaaggcgtgtgacgtttgtagcgaagacacgataccgataatactggaacaagtactcagctcagctgttcaactcactacgaggg
ccagcgcacaatatctaccgcgactacgagagtggtctcaacaaggataaagctcaagaacctcttggaatacatgacaacctggcgccgag
gaagcacgagcatgtttactacgacacgacgagatgactcttctgtaggacccggtatggaagcaagcctggcttataacctacatcaacct
cggctcagcaagggttggaggttcttctgtgccgaagttcggggcgcgtgcatccacgagtatacttgtaaacctcggaggctgggttaga
caagtactgtactcaagcggctgggtctatctcgaagctccagcttacgacctgccaacgggcagtatggtactcctgtgtggagctattgctg
gtgttggctga

Figure 16 (cont.)

SEQ ID NO.: 32

Met Ala Lys Tyr Ser Glu Leu Glu Gly Gly Val Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Gly Gly Ile Trp Trp Asp Thr Ile Arg Ser Arg Ile Pro Glu Trp Tyr Glu Ala Gly Ile Ser Ala Ile Trp Ile Pro Pro Ala Ser Lys Gly Met Gly Gly Ala Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Phe Phe Asp Leu Gly Glu Tyr Asp Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Val Asn Met Ile Asn Thr Ala His Ala Tyr Gly Ile Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly Asp Leu Glu Trp Asn Pro Phe Val Gly Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys Tyr Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Leu His Ala Gly Asp Ser Gly Thr Phe Gly Gly Tyr Pro Asp Ile Cys His Asp Lys Ser Trp Asp Gln Tyr Trp Leu Thr Ala Ser Gln Glu Ser Tyr Ala Ala Tyr Leu Arg Ser Ile Gly Ile Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Gly Ala Trp Val Val Lys Asp Trp Leu Asn Trp Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Asp Thr Asn Val Asp Ala Leu Leu Asn Trp Ala Tyr Ser Ser Gly Ala Lys Val Phe Asp Phe Pro Leu Tyr Tyr Lys Met Asp Glu Ala Phe Asp Asn Asn Asn Ile Pro Ala Leu Val Asp Ala Leu Arg Tyr Gly Gln Thr Val Val Ser Arg Asp Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro Ala Tyr Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu Asn Lys Asp Lys Leu Lys Asn Ile Ile Trp Ile His Asp Asn Leu Ala Gly Gly Ser Thr Ser Ile Val Tyr Tyr Asp Ser Asp Glu Met Ile Phe Val Arg Thr Gly Tyr Gly Ser Lys Pro Gly Leu Ile Thr Tyr Ile Asn Leu Gly Ser Ser Lys Val Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ala Cys Ile His Glu Tyr Thr Gly Asn Leu Gly Gly Trp Val Asp Lys Tyr Val Tyr Ser Ser Gly Trp Val Tyr Leu Glu Ala Pro Ala Tyr Asp Pro Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 33

atggccaagtactccgagctggaagagggcggggcctataatgcaggcggttactctggacgtgcttcctcaggagaatattggtggacacaat acggcagaagataccggaggtgtacgatgccgaatctccgaatatggtactctcccgagcgaagggtatgagcggcgctattatgatgg gctacgaccctacgattattttgacctgggtgagtactaccagaagggaacgggtggaaacgaggttcggctcaaaagcaggagcctaatcaat gataaacacggcccatgctcctaccgctataaagggtcatagcggacatcgtcataaaccaccgcgcagggcgagacacctgagttggaacccgttc gttggggactacacctggacggacttcaaaaggctggcctcgggcaaatatactgccactactcctgacttccaccgcgaacgagctccatcg ggcgattccggaacatttggagcgtatcccacatatgccacgacaagagctgggaccagtactggtctggccacggcaggagagctacgc ggcatactcaggagcctgcgcctgatgccttgcgcctttgactactgtgaagggtactcaggagcgtgggtcgtcaaggactggtcctaacgtgtg gggcgctgctggccgttggcgagtagtggggacaccaacggtgatgcacacctcaacttggcctactcagagcgcccaagggtcttcgactttc gctctactacaagatggacgcggcctttgacaacaagaacattccgcactcgtcgaggccctcaagaacggggcacagtgcctcagccgcg acccgtttaaaggccgtaacctctgttgcaaacaccgacaccgatataatctggaccaggtacttgccttactcctcaactcagcaaggcca cccctgcatattctaccgcgactacaggaggatggtgcctcaacaaggacaggttgaaacacctatagtatacagcaccacctcgcaggtggaa gaccgacatgctactactacgataacgatgaacgtatcctctcaggaacggcgtacggggacaagcggggccttataacctacatcaactagcgc tcgagcaaggccggaaaggttgggttacgttccgaagttcgcaggctcgtgcatacacgagtacacgcgaatctcggcgctgggtggacaa gtgggtggactcaagcggcgtggcttacctcagggtcctcgtccaccgacccggcccaaggcgcagtcaggctactcgtctggagctactgcg gtgttggctga

SEQ ID NO.: 34

Met Ala Lys Tyr Ser Glu Leu Glu Glu Gly Gly Val Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Ser Gly Gly Ile Trp Trp Asp Thr Ile Arg Gln Lys Ile Pro Glu Trp Tyr Asp Ala Gly Ile Ser Ala Ile Trp Ile Pro Pro Ala Ser Lys Gly Met Ser Gly Gly Tyr Ser Met Gly Tyr Asp Tyr Asp Tyr Phe Asp Leu Gly Glu Tyr Tyr Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Ile Asn Met Ile Asn Thr Ala His Ala Tyr Gly Ile Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly Asp Leu Glu Trp Asn Pro Phe Val Gly Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys Tyr Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Leu His Ala Gly Asp Ser Gly Thr Phe Gly Gly Tyr Pro Asp Ile Cys His Asp Lys Ser Trp Asp Gln Tyr Trp Leu Thr Ala Ser Gln Glu Ser Tyr Ala Ala Tyr Leu Arg Ser Ile Gly Ile Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Gly Ala Trp Val Val Lys Asp Trp Leu Asn Trp Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Asp Thr Asn Val Asp Ala

Figure 16 (cont.)

Leu Leu Asn Trp Ala Tyr Ser Ser Gly Ala Lys Val Phe Asp Phe Pro Leu Tyr Tyr Lys Met Asp Ala
Ala Phe Asp Asn Lys Asn Ile Pro Ala Leu Val Glu Ala Leu Lys Asn Gly Gly Thr Val Val Ser Arg
Asp Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Thr Lys Tyr Leu Ala
Tyr Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Val Ile Phe Tyr Arg Tyr Tyr Glu Glu Trp Leu Asn
Lys Asp Arg Leu Asn Asn Leu Ile Trp Ile His Asp His Leu Ala Gly Gly Ser Thr Asp Ile Val Tyr
Tyr Asp Asn Asp Glu Leu Ile Phe Val Arg Asn Gly Tyr Gly Asp Lys Pro Gly Leu Ile Thr Tyr Ile
Asn Leu Gly Ser Ser Lys Ala Gly Arg Trp Val Tyr Val Phe Lys Ala Gly Ser Cys Ile His Glu
Tyr Thr Gly Asn Leu Gly Gly Trp Val Asp Lys Trp Val Asp Ser Ser Gly Trp Val Tyr Leu Glu Ala
Pro Ala His Asp Pro Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 35

atgccaaagtactccgagctggaagagggcgccgttaaatgcaggcccttactggagctcccaaggtaggaatctggtgggacacat
caggagcaagataccggagctgtacgagcgagggaatcgcgcatgttgatcccccggcgagcaaggagctggcgccctattc gatg
ggctacgaccctcactgactcttctgacccctggtagtacgaccagaagggaacggtgagagacgcgtttggctccaaggaggagctgtgaa
catgataaacaccgccacgcctcagggcatacgaagctcatcgacagatagtaatacacaacccgcgcggaggagaccttggtagaacccct
tcgtcaatgactacacctggagcgactctctcgaaggctgctccggcaagtacacggccaactacctgacttccaccccacagaggtcaagt
ctgtgacgaggcgacatttggaggcttccagacatagccacgagaagagctgggaccagcactggctctggcgagc gatgagagctac
ggccgctactcaaggagcactggcggttagtgcctggcgcttcgactactcaaggctgcttggctctgcaaggagctgctgaactgtg
ggggagagctggcggttgagagtagtctgggacaccaaagctgcacgctgttctcaactggcgatactcgagcgggtgccaaaggtcttgaactcg
cccttactacaagatggacgcggcctttgacacacaagaacattccgcactctgctgagggccctcaagaacgggggcaacagctgtcagccgc
gaccgctttaaggcgctaaactctgtgcaaacacgacacccgataatactggaacaagtatccagctacgcttactctcactacacgaggg
ccagccgacaatattctaccgcactacgaggagtgctcacaaggataagctcaagaacctcatctgtatcatgacacagctgcgccggag
gaagcaccgacatagctactacgataacgatgaactcatctctgcaggaaagggctacggggacaaagccggggcgttaatacctacatcaact
aggctcgagcaagccgggaagggtggtttacgttccgaagttcgaggctctgcatacacgagtagacaccggcaactcgcggcgctgggtg
acaagtgggtgactcaagcggctgggttactctgaggtctcggccacgaccgggccaacgggcagtaggctatctcgtctggagagctac
tcgggtgttgggtga

SEQ ID NO.: 36

Met Ala Lys Tyr Ser Glu Leu Glu Glu Gly Gly Val Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Gly
Gly Gly Ile Trp Trp Asp Thr Ile Arg Ser Lys Ile Pro Glu Trp Tyr Glu Ala Gly Ile Ser Ala Ile Trp
Ile Pro Pro Ala Ser Lys Gly Met Gly Gly Ala Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Phe Phe Asp
Leu Gly Glu Tyr Asp Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Val Asn
Met Ile Asn Thr Ala His Ala Tyr Gly Ile Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly
Asp Leu Glu Trp Asn Pro Phe Val Asn Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys
Tyr Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Val Lys Cys Cys Asp Glu Gly Thr Phe Gly
Gly Phe Pro Asp Ile Ala His Glu Lys Ser Trp Asp Gln His Trp Leu Trp Ala Ser Asp Glu Ser Tyr
Ala Ala Tyr Leu Arg Ser Ile Gly Val Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Trp Ala Pro Trp
Val Val Lys Asp Trp Leu Asn Trp Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Asp Thr Asn Val Asp
Ala Val Leu Asn Trp Ala Tyr Ser Ser Gly Ala Lys Val Phe Asp Phe Ala Leu Tyr Tyr Lys Met Asp
Ala Ala Phe Asp Asn Lys Asn Ile Pro Ala Leu Val Glu Ala Leu Asn Gly Gly Tyr Lys Val Ser
Arg Asp Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro
Ala Tyr Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu
Asn Lys Asp Lys Leu Lys Asn Leu Ile Trp Ile His Asp Asn Val Ala Gly Ser Thr Asp Ile Val
Tyr Tyr Asp Asn Asp Glu Leu Ile Phe Val Arg Asn Gly Tyr Gly Asp Lys Pro Gly Leu Ile Thr Tyr
Ile Asn Leu Gly Ser Ser Lys Ala Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ser Cys Ile His
Glu Tyr Thr Gly Asn Leu Gly Gly Trp Val Asp Lys Trp Val Asp Ser Ser Gly Trp Val Tyr Leu Glu
Ala Pro Ala His Asp Pro Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 71

atgccaaagtactcggagctcgaagagggcggggtcataatgcaggcgttctactggagctgcttcaggaggaatattggtgggacacat

Figure 16 (cont.)

acggcagaagataccggagtggtacgatgccggaattccgcaatatggattccccggcgagcaaggcgatggcgccctaticgatg
ggctacgacccctacgactcttttgacctgggtga gtagcacaagaagggaacggtagagacgcgttggtcccaagcaggagctcgtgaa
catgataaacacgcccacgtcctacggcataaa ggtcatagcggaacatgctataaacaccacgcgca ggcggagacctcagtggtgaacccg
ttcgttggggactacacctggacggaccttcaaa ggtgacctcgggcaaatatactgccaactaccctccacccgaacgagctcatg
cggggcattccggaacatttggaggctatcccgacatatgccacgacaagagctgggaccagtaactggctctggccacgccaggagactac
ggggcatatctcaggagcatcggcatcgtgctggcgccttgactacgtcaaggcgtatgctccctgggtcgtcaaggactggctgaactggt
ggggaggctggcggtggaggagactggggacaccaaagctgacgctgttctcaactgggcatactcggagcgggtgccaaagttcttgacttcg
cccttactacaagattggatgaggcctttgacaacaaaacattcagcgcctgctctgcccttcgaagcgccacgactgtgtctcccgagac
ccgttcaaaggccgttaactttttagcaaacacgacacccgatataatggacaagaattaccagctacgcgttcatctctacacagaggggcc
agccgacaatatattccacgcgacacgaggtgggtcacaacaggataagctcaagaacacctcatctggatcatgacaacacctcgccggagga
agcaactgacatcgctttactacgacaacgacgagctgatattcgtggaagacggctacggaagcaagccgggactgataaca tacataaacctc
ggcacaagcacaagccgggaaggtgggtttatgtgccgaagttcgcggcgctgcatcaca gtagtatactgtaacctcggaaggctgggtaga
caagtagcttactacaaagcggtgggtctatctcgaagctccagcttacgacctgccaaaggcgagtagtggtactccgtgtggagctactgc
gggggtgggtga

SEQ ID NO.: 72

Met Ala Lys Tyr Leu Glu Leu Glu Gly Gly Val Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Ser Gly Gly Ile Trp Trp Asp Thr Ile Arg Gln Lys Ile Pro Glu Lys Trp Asp Ala Gly Ile Ser Ala Ile Trp Ile Pro Pro Ala Ser Lys Gly Met Gly Gly Ala Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Phe Phe Asp Leu Gly Gly Tyr Asp Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Val Asn Met Ile Asn Thr Ala His Lys Trp Tyr Gly Ile Lys Val Ile Ala Asp Ile Val Asn His Arg Ala Gly Gly Asp Leu Glu Trp Asn Pro Phe Val Gly Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys Tyr Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Leu His Ala Gly Asp Ser Gly Thr Phe Gly Gly Tyr Pro Asp Ile Cys His Asp Lys Ser Trp Asp Gln Tyr Trp Leu Trp Ala Ser Gln Glu Ser Tyr Ala Ala Tyr Leu Arg Ser Ile Gly Ile Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Ala Pro Trp Val Val Lys Asp Trp Leu Asn Trp Trp Gly Gly Trp Ala Val Gly Glu Tyr Asp Thr Asn Val Asp Ala Val Leu Asn Trp Ala Tyr Ser Ser Gly Ala Lys Val Phe Asp Phe Ala Leu Tyr Tyr Lys Met Asp Glu Ala Phe Asp Asn Lys Asn Ile Pro Ala Leu Val Ser Ala Leu Gln Asn Gly Gln Thr Val Val Ser Arg Asp Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Trp Trp Asn Lys Lys Thr Tyr Ala Tyr Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu Asn Lys Asp Lys Leu Lys Asn Leu Ile Trp Ile His Asp Asn Leu Ala Gly Gly Ser Thr Asp Ile Val Tyr Tyr Asp Asn Asp Glu Leu Ile Phe Val Arg Asn Gly Tyr Gly Ser Lys Pro Gly Leu Ile Thr Tyr Ile Asn Leu Ala Ser Ser Lys Ala Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ala Cys Ile His Glu Tyr Thr Gly Asn Leu Gly Gly Trp Val Asp Lys Tyr Val Tyr Ser Ser Gly Trp Tyr Trp Leu Glu Ala Pro Ala Tyr Asp Pro Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 49

gtggttatgacgatgtccgctatgacctttatgccgtaggcatggccgtgtttatcatgtttcagagctcctcgtctggagccaaagccgctctc
accgttccctctggctgactaccggaaggcaagaagctgtaggggtcgtagcccatggaataggccgcccatgaccttgcgtccggg
ggaattccatatcccgaaatcccgccgcttgcctgggtatcttctggcgtactgttcccaacgagttcctccatggggagcgtccagta
gaagcctcgtcattagagcccccctcttcgagcccggaatactttgccataagttacctcctactagtagtaattaaattctgtttctgtgaaatt
ggt

SEQ ID NO.: 50

Val Val Tyr Asp Asp Val Arg Tyr Asp Leu Tyr Ala Val Gly Met Gly Arg Val Tyr His Val His Glu Leu Leu Leu Gly Ala Lys Ala Arg Leu Tyr Arg Ser Leu Leu Val Val Leu Thr Glu Val Lys Glu Val Val Gly Val Val Ala His Arg Ile Gly Ala Ala His Ala Leu Ala Arg Arg Gly Asn Pro Tyr Arg Arg Asn Pro Gly Ala Cys Pro Val Gly Tyr Leu Leu Gly Tyr Arg Val Pro Pro Asp Ser Ser His Gly Asp Val Pro Val Glu Gly Leu His Tyr Glu Pro Ala Leu Phe Glu Pro Gly Ile Leu Cys His Lys Leu Pro Pro Thr Ser Arg Leu Lys Phe Cys Phe Leu Cys Glu Ile Val

Figure 16 (cont.)

SEQ ID NO.: 51

ATGGCCAAAGTACCTGGAGCTCGAAGAGGGCGGGGTCTAATGCAGGCGTTCTACTGGG
ACGTGCTCTACGAGGAATAATGGTGGGACACAATACGGCAGAAGATACCGAGTGTG
ACGATGCCGGAATCTCCGCAATATGGATTCCCCCGGCGAGCAAGGGCATGGCGCGCG
CTATTCTGATGGGCTACGACCCCTACGACTCTTTGACCTCGGTGAGTACGACCAAG
GGAACGGTAGAGACGCGCTTTGGCTCCAAGCAGGAGCTCGTGAACATGATAAACACC
GCCACGCCTATGGCATGAAGGTAATAGCCGATATAGTCATAACACCACCGCGCGCGG
GTGACCTGGAGTGAACCCCTTCGTGAACGACTATACCTGCACCGACTTCTCAAAGGT
CGCGTCGGGTAAATACACGGCAACTACCTCGACTTCCACCCCAACGAGGTCAAAGTGC
TGTGACGAGGGCACATTTGGAGGCTTCCAGACATAGCCCAACGAGAAGAGCTGGGAC
CAGCACTGGCTCTGGGCGAGCGATGAGAGCTACGCCGCTACCTAAGGAGCATCGGCG
TTGATGCTTGGCGCTTTGACTIACGTGAAGGGCTACGGAGCGTGGGTCGTCAAGGACTG
GCTCAACTGGTGGGCGGCTGGGCGGCTTGGCGAGTACTGGGACACCAACGTGTGATGCA
CTCTCAACTGGGCTACTCGAGCGGCGCAAGGTCTTCTGACTTCCGCTCTACTACAA
GATGGATGAGGCTTTGACAACAAAAACATTCCAGCGCTCGTCTTGCCTTCAGAAC
GGCCAGACTGTTGTCTCCCGCGACCCGTTCAAGGGCGTAACCTTTGTAGCAAAACCAG
ACACCGATATAATCTGGAACCAAGTATCCAGCTACCGCTTACTCTCACTACGAGGG
CCAGCCGACATATTTCTACCGCGACTACGAGGAGTGGCTCAACAAGGATAAGCTCAAG
AACCTCATCTGGATACATGACAACCTCGCCGGAGGAAGCACTGACATCGTTTACTACG
ACAACGACGAGCTGATATTCGTGAGAAACGGCTACGGAAGCAAGCCGGGACTGATAA
CATACATAACCTCGCCTCAAGCAAAAGCCGAAGGTGGGTTTACGTTCCGAAGTTTCG
AGGCTCGTGATACACGAGTACACCGCAATCTCGGCGGCTGGGTGACCAAGTGGGTG
GACTCAAGCGCTGGGTCTACCTCGAGGCTCTGCCCCACGACCCGGCCAACGCCAGT
ACGGCTACTCCGCTCGGAGCTATTGCGGTGTGTGGCTGA

SEQ ID NO.: 52

MAKYLELEEGGVIMQAFYWDVPSSGIWWDTRQKIPWEYDAGISAIWIPPASKMGMGAYS
MGYDYPDFDLGEYDQKGTVETRFGSKQELVNMINTAHAYGMKVIADIVINHRAGGDLE
WNPFFVNDYTWTFDFSKVASGKYTANYLDFHPNEVKCCDEGTFGGFPIAHEKSWDQHWL
WASDESYYAALRSIGVDAWRFDYVKGYGAVVVKDWLNWVWGGVAVGEYWDITNDVAL
LNNWYSSGAKVDFDPLYKMDFAFDNKNIPALVVSALQNGQTVVSRDPFKAIVTFVANHDT
DIWVWNPYAFALITYEGQPTIFYRDIYEWLNKDKLNLWIHNDLAGGSTDIVYYDNDELI
FVRNIGYGSKPLGITYNLASSKAGRWVYVPKFAAGSCIHEYTGNLGGWVDKWVDSGWWY
LEAPAHDPANGQYGYSVWSYCGVG

SEQ ID NO.: 37

atggccaagtacgtcgagctcgaaggggcggtcataatgcaggcggttctactgggacgtgcttcaggaggaatattggtggacacaat
acggcagaagataccggaggtgacgatgccggaatctccgcaataatggattccccggcgagcaagggaatggggcgcggtatcagtgatg
ggctacgaccctcagactctttgactctggtagtacgacgaagggaacggtagagcgcttggttcgaagcaggaagctcgtgaa
catgataaacaccgccacgcctatggcatgaaggtaataagccgatalatgatcaaccaccgccggcgcggtgacgtggagtgaacccctt
cgtgaacgactatactggacgactctcaagggtcgtgcgggtaataacacggccaactaactcgaactccaccgcaacgagctccatgc
ggcgatctcggacaattggaggctatccgacatattgccagacaagagctgggaccagtactgggctctggccagcagcagagagctac
ggcgcatatctcaggagcagtcggcatgatgctggcgctttgactacgtgaagggtcagcgcgcggtctcgaaggactggctcaactg
cggcgggcggtggcggtggcgtggcgtgacgacacacgttgtagtcacaccccaactggcgactcagcgcgcgcaagggtcttctgaact
ccgctctactacaagaatggatggagcctttgacaacaaaaatccacgcgctcgtctcgtccctcagaacggcgagactgtgtctccgcg
accggttaacggcggttaacctttgtgcaaacaccgacacccgataatctggaacaaatgacgacgctacgcgttcatctcactacgagg
ccagccgacataattctatcgcgactcagggaggtggctcaacaaaggataagctcaagaaacctatctggatatacagaacacctgccggagg
aagcactgacatgtttactacgacaacgacgagctgattctgtgagaacggctacggaagcaagcgggactgataacatacatcaact
cgcccaagcaagccggaggtgggtttacgttccgaagtgcgagctcgtgcatacagtgatccggcaatctcgcggtgggtgg

Figure 16 (cont.)

acaagtgggtggactcaagcgctgggtctacctcaggctctctgccacgaccggccaacggccagtacggctactcgtctggagctac
tgcgggggtgggtga

SEQ ID NO.: 38

Met Ala Lys Tyr Leu Glu Leu Glu Glu Gly Gly Val Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Ser
Gly Gly Ile Trp Trp Asp Thr Ile Arg Gln Lys Ile Pro Glu Trp Tyr Asp Ala Gly Ile Ser Ala Ile Trp
Ile Pro Pro Ala Ser Lys Gly Met Gly Gly Ala Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Phe Phe Asp
Leu Gly Glu Tyr Asp Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Val Asn
Met Ile Asn Thr Ala His Ala Tyr Gly Met Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly
Asp Leu Glu Trp Asn Pro Phe Val Asn Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ser Asp Gly Lys
Tyr Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Leu His Ala Gly Asp Ser Gly Thr Phe Gly Gly
Tyr Pro Asp Ile Cys His Asp Lys Ser Trp Asp Gln Tyr Trp Leu Trp Ala Ser Gln Glu Ser Tyr Ala
Ala Tyr Leu Arg Ser Ile Gly Ile Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Gly Ala Arg Val
Val Lys Asp Trp Leu Asn Trp Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Asp Thr Asn Val Asp Ala
Leu Leu Asn Trp Ala Tyr Trp Ser Ser Gly Ala Lys Val Phe Asp Phe Pro Leu Tyr Tyr Lys Met Asp Glu
Ala Phe Asp Asn Lys Asn Ile Pro Ala Leu Val Ser Ala Leu Gln Asn Gly Gln Thr Val Val Ser Arg
Asp Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro Ala
Tyr Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu Asn
Lys Asp Lys Leu Lys Asn Leu Ile Trp Ile His Asp Asn Leu Ala Gly Gly Ser Thr Asp Ile Val Tyr
Tyr Asp Asn Asp Glu Leu Ile Phe Val Arg Asn Gly Tyr Gly Ser Lys Pro Gly Leu Ile Thr Tyr Ile
Asn Leu Ala Ser Ser Lys Ala Gly Arg Trp Val Tyr Val Pro Lys Phe Gly Asp Ser Cys Ile His Glu
Tyr Thr Gly Asn Leu Gly Gly Trp Val Asp Lys Trp Val Asp Ser Ser Gly Trp Val Tyr Leu Glu Ala
Pro Ala His Asp Pro Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 39

atggccaagtacctggagctcgaagaggcggggtcataatgcaggctgtctactgggacgtgccttcaggaggaaatatgtgggacacaat
acggcagaagaatccggagtgatcgatgcggnaatccgcaatatggattctcccgagcagggggtatgagcggcggtactgatgg
gctacgacctactgattatttgactcgggtgagtactaccagaagggaacgggtgaaacagaggttcggctcaaacgaggagctcataaacat
gataaacaccgccacgctatggcatgaaggttaatgcgcatatagtcataaccacggcgccgggtgacctggagtggaacccctctg
gaacgactatactggaccgacttctcaaaaggctcgtcgggtaaatcacgcgccaactcgaattccaccggcgaacgagctccatcgggg
cgattccggaacatttggagctatccgacatatgccacgacaagaactggggaccagtgactggtctgggccgacggaagctacggg
catactcaggagcatcggatcgatgcctggcgttgactacgtgaagggtcaggaagcgtgggtcgtcaaggactggctcaacttggtggg
ggcgtcggggcgttggcgagctactgggaccccaacgttgatgcctctcctccctgggcctactcagcggcgccgaagggtcttcgacttccgc
tctactacaagatggatgagggcctttgacacaaaacattccagcgctcgtctcgtccctcgaacggcgagactgtgtctcccgaccgc
ttcaagccgctaacccttftgaacccaacgatacogataatacttggacaagaatgccactcgggtctactcctacacacgaggccgacgc
gacaatatctacccgactactcaggaagtggctcaacaaggataagctcaagaacctcatctggatacatgaacaacctcggcgaggagaagca
ccgacatagctactacgataacgatgaactctctctcaggaacgggtacggggacaagccggggcttaaacctacatacaacctaaggctc
gagcaaggccgggaaggttgggtctactgtccgaaggtcgcggagcgtgcatccacgagtaacacggcaacctcggcggtcgggtggacaa
gtgggtggactcaagcgggtgggtgtaactcaggccctcggccacgaccggccacagggctattacggctactcgtctggagactactgg
gggtgggctga

SEQ ID NO.: 40

Met Ala Lys Tyr Leu Glu Leu Glu Glu Gly Gly Val Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Ser
Gly Gly Ile Trp Trp Asp Thr Ile Arg Gln Lys Ile Pro Glu Trp Tyr Asp Ala Gly Ile Ser Ala Ile Trp
Ile Pro Pro Ala Ser Arg Gly Met Ser Gly Gly Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Tyr Phe Asp
Leu Gly Glu Tyr Tyr Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Ile Asn Met
Ile Asn Thr Ala His Ala Tyr Gly Met Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly Asp
Leu Glu Trp Asn Pro Phe Val Asn Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys Tyr
Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Leu His Ala Gly Asp Ser Gly Thr Phe Gly Gly Tyr
Pro Asp Ile Cys His Asp Lys Ser Trp Asp Gln Tyr Trp Leu Trp Ala Ser Gln Glu Ser Tyr Ala Ala

Figure 16 (cont.)

Tyr Leu Arg Ser Ile Gly Ile Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Gly Ala Trp Val Val
Lys Asp Trp Leu Asn Trp Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Asp Pro Asn Val Asp Ala Leu
Leu Pro Trp Ala Tyr Ser Ser Gly Ala Lys Val Phe Asp Phe Pro Leu Tyr Tyr Lys Met Asp Glu Ala
Phe Asp Asn Lys Asn Ile Pro Ala Leu Val Ser Ala Leu Gln Asn Gly Gln Thr Val Val Ser Arg Asp
Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro Ala Tyr
Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu Asn Lys
Asp Lys Leu Lys Asn Leu Ile Trp Ile His Asp Asn Leu Ala Gly Gly Ser Thr Asp Ile Val Tyr Trp
Asp Asn Asp Glu Leu Ile Phe Val Arg Asn Gly Tyr Gly Asp Lys Pro Gly Leu Ile Thr Tyr Ile Asn
Leu Gly Ser Ser Lys Ala Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ala Cys Ile His Glu Tyr
Thr Gly Asn Leu Gly Gly Trp Val Asp Lys Trp Val Asp Ser Ser Gly Trp Val Tyr Leu Glu Ala Pro
Ala His Asp Pro Ala Asn Gly Tyr Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 41

atggccaagctacctggagctcgaagaggcgggggcataatgcaggcgcttactgggacgtgccttcaggaggaaatgggtgggacacaat
acggcagaagataccggagtggtacgatgcgggaatctccgcaatatggattcctccgcgagcaagggtatgagcggcggtattcgtgatg
gcacgaccctcagattatttgacctcggtagtactaccagaagggaacgggtggaacgaggttcggctcaaacgaggagctcataaacat
gataaacacggcccatgcctacggcataaaggctcatagcggacatcgtcataaaccaccgcgagcgaggagacctcagtggaacccgttc
gttggggactacacggcggagcttctcaaaagggtgcctcgggcaaatatactgccaactacctcgacttccaccgaacgagctccatgcg
ggcgattccggaaacattggaggctatccgcacatgcccacgacaagagctgggacagctatggctctgggccaagcagagagagctacgc
ggcctatcagagagcctggcctcgtgctcggcgtttgactactggaagggtctacggagcgtgggtctgcaaggactggctcaactggg
ggcgcgctggcggtggcgagctactggacaccaaactgtgatgcactcctcaactgggctactcgaagcgccgaaggcttctgaactcc
gctctactacaagatgtagcgcgcccttgacaacaaagaactcccgactcgtcgaagcggccccaagcggggcacaagctcgaagcgcg
accggcttaaggccgtaacctcgttgcacaaaccacacacgatataacttggacaagtatccagcctacgcgttcatctcactcagagggc
cagccgacaataattaccgcgactacgagagtggtgctcaacaaggataaagctcaagaacctcatctggatatacgaacacctcggcgagg
aagcacgagcatagtttactacgacagcagagatgatctcgtgaggaacggcgtatggaagcaagcctggcctataactcatcacctc
ggctcgaacaaagggtggaagggtggattgtgcccgaagttcggggcgctgcgtatccacgagtatactgtaacctcggagcgtgggtgac
aagtacgtctactcaagcgctgggtctatctcgaagctccagcttaccgacctccaacgggcagatgtgctactcctgctggagctactgcg
gtgttgggtga

SEQ ID NO.: 42

Met Ala Lys Tyr Leu Glu Leu Glu Glu Gly Gly Val Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Ser
Gly Gly Ile Trp Trp Asp Thr Ile Arg Gln Lys Ile Pro Glu Trp Tyr Asp Ala Gly Ile Ser Ala Ile Trp
Ile Pro Pro Ala Ser Lys Gly Met Ser Gly Gly Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Tyr Phe Asp
Leu Gly Glu Tyr Trp Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Ile Asn Met
Ile Asn Thr Ala His Ala Tyr Gly Ile Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly Asp
Leu Glu Trp Asn Pro Phe Val Gly Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys Tyr
Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Leu His Ala Gly Asp Ser Gly Thr Phe Gly Gly Tyr
Pro Asp Ile Cys His Asp Lys Ser Trp Asp Gln Tyr Trp Leu Trp Ala Ser Gln Glu Ser Tyr Ala Ala
Tyr Leu Arg Ser Ile Gly Ile Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Gly Ala Trp Val Val
Lys Asp Tyr Leu Asn Trp Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Thr Asn Val Asp Ala
Leu Leu Asn Trp Ala Tyr Ser Ser Gly Ala Lys Val Phe Asp Phe Pro Leu Tyr Tyr Lys Met Asp Ala
Ala Phe Asp Asn Lys Asn Ile Pro Ala Leu Val Glu Ala Leu Lys Asn Gly Gly Thr Val Val Ser Arg
Asp Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro Ala
Tyr Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu Asn
Lys Asp Lys Leu Lys Asn Leu Ile Trp Ile His Asp Asn Leu Ala Gly Gly Ser Thr Ser Ile Val Tyr
Tyr Asp Ser Asp Glu Met Ile Phe Val Arg Asn Gly Tyr Gly Ser Lys Pro Gly Leu Ile Thr Tyr Ile
Asn Leu Gly Ser Ser Lys Val Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ala Cys Ile His Glu
Tyr Thr Gly Asn Leu Gly Gly Trp Val Asp Lys Tyr Val Tyr Ser Ser Gly Trp Val Tyr Leu Glu Ala
Pro Ala Tyr Asp Pro Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

Figure 16 (cont.)

SEQ ID NO.: 43

atggccaagtactccgacctgggaagaggggcggttaaatcgaggccttctactggagcgtccaggtggaggaatctggtgggacacat
caggagcaagataccggagtggtacaggcggaataatccgccatttgattccccggcgagcaaggcgatggcgggcgctattcgaag
ggctacgaccctcagactctttgacctggtgagtagaccagaagggaacggtagagacgcgctttggcctcaagcaggagctctgtaa
catgataaacaccggcccatgctactggcgataaaggctacagcggacatcgtcataaaccaccggcgaggcggaacacctgagtggaacccg
ttcgttggggactacacctggcggacttctcaaaagggtggcctcgggcaataatagcgaactactcctgacttcaccccacaggaggtcaagt
cgtgtgacagggcgacatitggaggcttccagacatagccacgagagagctgggacacgactgctctggcgagcgaatgagagacta
cgccgctacttaaggagcctcggcgttgatgctggcgcttcgactacgcaaggcgtacggagcgtggctcgaaggactcgtcgtgact
ttggggggagcgtggcgctcggggaglacgtgggacacaaacgttgatgactgctcaactggcgctactcgaagcgtcaaaagtcttcgac
ttccgctctactacaagatgagtgaggcctttgacaacaaaacatfccaagcgtcgtctctgctcctcgaagcggcagactgtgtctcccg
gaccgcttcaaggccggttaacctttgtaacaaacacgacaccgatataatctggaacaagtatccagcctacgctgtatcctacactacagg
ggcagccgacaatattctaccggactacgaggagtggtgctcaacaaggataagctcaagaacctctatcgatacatgacaacctcgtcggag
gaagcagcgcatagtttactacgacgacgacgagatgactctcgtgaggaaacggctatggaaacgaagcctggccttaactatcatcaact
cgcgctcgagcaaggttggaagggtgttactgttccgaaggttcgagggctcgtgacacagagtagtacggcaatctcggcggtgggtg
acaagtgggtggactcaaggcggcgtgggtctactcggaggtcctcggccacgacccggccaacggccagtagcgtactcctgctggagtagc
tgcgggttggtgta

SEQ ID NO.: 44

Met Ala Lys Tyr Ser Glu Leu Glu Gly Gly Val Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Gly
Gly Gly Ile Trp Trp Asp Thr Ile Arg Ser Lys Ile Pro Glu Trp Tyr Glu Ala Gly Ile Ser Ala Ile Trp
Ile Pro Pro Ala Ser Lys Gly Met Gly Gly Ala Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Phe Phe Asp
Leu Gly Glu Tyr Asp Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Val Asn
Met Ile Asn Thr Ala His Ala Tyr Tyr Gly Ile Lys Val Ile Ala Asp Ile Lys Asn His Arg Ala Gly Gly
Asp Leu Glu Trp Asn Pro Phe Val Gly Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys
Tyr Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Val Lys Cys Cys Asp Glu Gly Thr Phe Gly
Gly Phe Pro Asp Ile Ala His Glu Lys Ser Trp Asp Gln His Trp Tyr Glu Ala Ser Asp Glu Ser Tyr
Ala Ala Tyr Leu Arg Ser Ile Gly Val Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Gly Ala Trp
Val Val Lys Asp Trp Leu Asp Trp Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Asp Thr Asn Val Asp
Ala Leu Leu Asn Trp Ala Tyr Ser Ser Asp Ala Lys Val Phe Asp Phe Pro Leu Tyr Tyr Lys Met Asp
Glu Ala Phe Asp Asn Lys Asn Ile Pro Ala Leu Val Ser Ala Leu Gln Asn Gly Gln Thr Val Val Ser
Arg Asp Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro
Ala Tyr Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Thr Ile Phe Tyr Asp Arg Tyr Glu Lys Trp Leu
Asn Lys Asp Lys Leu Lys Asn Leu Ile Trp Ile His Asp Asn Leu Val Gly Gly Ser Thr Ser Ile Val
Tyr Tyr Asp Ser Asp Glu Met Ile Phe Val Arg Asn Gly Tyr Gly Ser Lys Pro Gly Leu Ile Thr Tyr
Ile Asn Leu Gly Ser Ser Lys Val Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ser Cys Ile His
Glu Tyr Thr Gly Asn Leu Gly Gly Trp Val Asp Lys Trp Val Asp Ser Ser Gly Trp Val Tyr Leu Glu
Ala Pro Ala His Asp Pro Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 45

atggccaagtactccgacctgggaagaggggcggttaaatcgaggccttctactggagcgtccaggtggaggaatctggtgggacacat
caggagcaagataccggagtggtacaggcggaataatccgccatttgattccccggcgagcaaggcgatggcgggcgctattcgaag
ggctacgaccctcactgactctttgacctgggtgagtagaccagaagggaacggtagagacgcgctttggcctcaagcaggagctcgtgaa
catgataaacaccggcccaatgcctacggcatalaaggctcatagcggacatcgtcataaaccggcgagcggagacctcgagtggaacccg
ttcgttggggactacacctggacgacttctcaaaagggtggcctcgggcaataatagcgaactactcgaacttcaccccacaggaggtcaagt
gctgtgacgagggcgacatttgaggcttccagacatagccacgagaaagcgtgggacacgactgctcgtggcgagcgaatgagagacta
cgccgctacttaaggagcctcggcgttgatgctcgttggactacgtgaaggcgtacggagcgtgggtcgtcaaggagactggtcactg
gtggcgcgctcgtggcggttggtgagtagtgggacacaaacgttgatgactcctaactggcgctactcgaagcggcgcaaggtcttctgact
cccgctctactacaagtagtagggcctttgacaacaaaacattccagcgtcgtctcctcgaagcggcgaactgtgtgtctcccg
accgttcaaggcgctaacctttgtaacaaacacgacaccgatataatctggaacaagtatccagcctacgcttctcactcactcagaggg
ccagccgacaatattctaccggactacgaggagtggtcacaaggataagctcaagaacctctatcgatacatgacaacctcggcgagg

Figure 16 (cont.)

gaagcaccgacatagtctactacgataacgatgaatcatctctgtcaggaaacggctacggggcaagccggggcttaaacctacatcaacct
aggctcgagcaagccggaagggttgattatgtgcgaagttcgcggcgcgctgcacccagagtatactggtaacctcgaggctgggtag
acaagtactgtctactcaagccgctgggtctatctcgaagctccagcttacgacctgccaaacggcgatgtgctactccgtgtggagctattgc
ggtgttggtgga

SEQ ID NO.: 46

Met Ala Lys Tyr Ser Asp Leu Glu Glu Gly Gly Val Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Gly
Gly Gly Ile Trp Trp Asp Thr Ile Arg Ser Lys Ile Pro Glu Trp Tyr Glu Ala Gly Ile Ser Ala Ile Trp
Ile Pro Pro Ala Ser Lys Gly Met Gly Gly Ala Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Phe Phe Asp
Leu Gly Glu Tyr Asp Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Val Asn
Met Ile Asn Thr Ala His Ala Tyr Gly Ile Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly
Asp Leu Glu Trp Asn Pro Phe Val Gly Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys
Tyr Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Val Lys Cys Cys Asp Glu Gly Thr Phe Gly
Gly Phe Pro Asp Ile Ala His Glu Lys Ser Trp Asp Gln His Trp Leu Trp Ala Ser Asp Glu Ser Tyr
Ala Ala Tyr Leu Arg Ser Ile Gly Val Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Gly Ala Trp
Val Val Lys Asp Trp Leu Asn Trp Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Asp Thr Asn Val Asp
Ala Leu Leu Asn Trp Ala Tyr Ser Ser Gly Ala Lys Val Phe Asp Phe Pro Leu Tyr Tyr Lys Met Asp
Glu Ala Phe Asp Asn Lys Asn Ile Pro Ala Leu Val Ser Ala Leu Gln Asn Gly Gln Thr Val Val Ser
Arg Asp Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro
Ala Tyr Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu
Asn Lys Asp Lys Leu Lys Asn Leu Ile Trp Ile His Asp Asn Leu Ala Gly Gly Ser Thr Asp Ile Val
Tyr Tyr Asp Asn Asp Glu Leu Ile Phe Val Arg Asn Gly Tyr Gly Asp Lys Pro Gly Leu Ile Thr Tyr
Ile Asn Leu Gly Ser Ser Lys Ala Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ala Cys Ile His
Glu Tyr Thr Gly Ser Asn Leu Gly Trp Val Asp Lys Tyr Val Tyr Ser Ser Gly Trp Val Tyr Leu Glu
Ala Pro Ala Tyr Asp Pro Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 47

atggccaagtacaccagctcgaagaagggcgctgtataatgcaggcccttactgggagctccaggttggaaggaatctggtggacacct
caggagcaagataccggagtgctacgagggcggaatatccgcatttggattccccgcgagcaagggcatggcgccgcctattcgtatg
ggctacgacctctacgactcttttgaacctcgttgtagtaccagaaaggggaacggttagagacgcgtttggctccaagcaggagctcgtgaa
catgataaacaccgccacgcctatggatgaaggttaataagccgataatgcatcaaccaccgcgcggcggtgacctggatgggaacctct
cgtgaacgactataacctgaccgacttctcaaaaggtcgcgtcgggtaaatacacggcacaactacctgactccaccccaacgaggtcaagtg
ctgtacgagggcgacatttggagcttccagacatagccacgagaagagctgggaccagcactggctctggcgagcgtatgagagctac
ggcgctactcaagagcatcggcggttgatgcctggcgctttgactactgtgaagggtacggagcgtgggtctgtaaggactgctcaactgc
tggggcggttgggcggttgcgagactcggagacaccaaogtltgatgcactcctcaactgggctactcagagcgcgccaaggtcttcgactc
ccgctctactacaagatgtagggcctttgacaacaaaacttccacgcgctcgtctcgccttcagaacggcgacagactgtgtctcccgca
ccggttcaagccgtaacctttgtatgcaaacacgacacgatataatctggaacaagtactctgttatgcttcatctcactacacgaagcca
ggcgtcatattctaccgcgactacaggaagtggctcaacaaggaaggttgaacaacctataggaatacacgaccactcgcaaggttggaag
cacgacatagtgttactacgacgcgagcagatgctctgtgaggaaacggctatggaagcaagcctggccttaactacatcaacctcggt
cgagcaaggttggaaggtgggtttactcttccgaagttcgcaggccgtgcatacacgagttacacgcaatctcgccggctgggttggaacag
tgggtggactcaagcgctgggtctactctcagggtcctgccacgaccggccaacggcgacgtacggctactcgtctggagctactcggg
tgttggttag

SEQ ID NO.: 48

Met Ala Lys Tyr Thr Glu Leu Glu Glu Gly Gly Val Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Gly
Gly Gly Ile Trp Trp Asp Thr Ile Arg Ser Lys Ile Pro Glu Trp Tyr Glu Ala Gly Ile Ser Ala Ile Trp
Ile Pro Pro Ala Ser Lys Gly Met Gly Gly Ala Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Phe Phe Asp
Leu Gly Glu Tyr Asp Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Val Asn
Met Ile Asn Thr Ala His Ala Tyr Gly Met Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly
Asp Leu Glu Trp Asn Pro Phe Val Asn Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys

Figure 16 (cont.)

Tyr Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Val Lys Cys Cys Asp Glu Gly Thr Phe Gly
Gly Phe Pro Asp Ile Ala His Glu Lys Ser Trp Asp Gln His Trp Leu Trp Ala Ser Asp Glu Ser Tyr
Ala Ala Tyr Leu Arg Ser Ile Gly Val Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Gly Ala Trp
Val Val Lys Asp Trp Leu Asn Trp Trp Gly Gly Trp Ala Val Gly Gly Tyr Trp Asp Thr Asn Val Phe
Ala Leu Leu Asn Trp Ala Tyr Ser Ser Gly Ala Lys Val Phe Asp Phe Pro Leu Tyr Tyr Lys Met Asp
Ala Ala Phe Asp Asn Lys Asn Ile Pro Ala Leu Val Ser Ala Leu Gln Asn Gly Gln Thr Val Val Ser
Arg Asp Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Leu
Ala Tyr Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Val Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu
Asn Lys Asp Arg Leu Asn Asn Leu Ile Trp Ile His Asp His Leu Ala Gly Gly Ser Thr Ser Ile Val
Tyr Tyr Asp Ser Asp Glu Met Ile Phe Val Arg Asn Gly Tyr Gly Ser Lys Pro Gly Leu Ile Thr Tyr
Ile Asn Leu Gly Ser Ser Lys Val Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Pro Cys Ile His
Glu Tyr Thr Gly Asn Leu Gly Gly Trp Val Asp Lys Trp Val Asp Ser Ser Gly Trp Val Tyr Leu Glu
Ala Pro Ala His Asp Pro Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 53

ATGGCCAAGTACTCCGAGCTGGAAGAGGGCGGCGTTATAATGCAGGCCTTCTACTGGG
ACGTCCCAAGGTGGAGGAATCTGGTGGGACACCATCAGGAGCAAGATACCGGAGTGGT
ACGAGGCGGGAATATCCGCCATTGGATTCCCCCGGCGAGCAAGGGCATGGGCGCG
CCTATTGATGGGCTACGACCCCTACGACTTCTTTGACCTCGGTGAGTACGACACGAA
GGGAACGGTAGAGACGCGCTTTGGCTCCAAGCAGGAGCTGTGAACATGATAAACAC
GGCCCATGCTACGCATAAAGGTCATAGCGGCATCGTCATAAACACCACCGCACAGGC
GGAGACCTCGAGTGAACCCGTTCTGTTGGGGACTACACCTGGACGGGACTTCTCAAAGG
TGGCCTCGGGCAAAATATACCTGCCAACTACCTCGACTTCCACCCCAACGAGGTCAGG
CTGTGACGAGGGCATATTGGAGGCTTCCAGACATAGCCCACGAGAAGAGCTGGGA
CCAGCACTGGCTTGGGCGAGCGATGAGAGCTACGCCGCTACCTAAGGAGCATCGGC
GTGTGATGCTGGCGCTTCGACTACGTCAAGGGCTACGGAAGCGTGGGTCTGCTCAAGGACT
GGCTGGACTGGTGGGGAGGCTGGGGCGTGGGGAGTACTGGGACACAAACGTTGATG
CACTGCTCAACTGGGCCTACTCGAGCGATGCAAAAGTCTTCGACTTCCCGCTCTACTAC
AAGATGGATGAGGCCCTTTGACAACAAAAACATTCCAGCGCTGCTCTGTCCTTACAGA
ACGGCCAGACTGTTGTCTCCCGCGACCCGTTCAAGGCCGTAACCTTTGTAGCAAAACCA
CGACACCGATATACTGGAACAAGTATCCAGCCTACGCGTTCATCCTCACTACGAG
GGCCAGCGCACAATATTCTACCGGACTACGAGGAGTGGCTCAACAAGGATAAGCTCA
AGAACCTCATCTGGATACATGACAACCTCGCCGGAGGAAGCACTGACATCGTTTACTA
CGACAACGACGAGCTGATATTCTGTGAGAAAACGGCTACGGAAGCAAGCCGGGACTGAT
ACACATACATCAACCTCGCCTCAAGCAAAGCCGGAAGGTGGGTCTACGTTCCGAAGTTC
GCGGGAGCGTGATCCACGAGTACACCGGCAACCTCGGCGGCTGGGTGGACAAGTGG
GTGGACTCAAGCGGGTGGGTGTACCTCGAGCCCTCGCCACGAGCCCGGCAACGGCT
ATTACGGCTACTCCGTCTGGAGCTACTGCGGTGTTGGCTGA

SEQ ID NO.: 54

MAKYSELEEGVIMQAFYWDVPGGGIWWDITIRSKIPEWYEAGISAIWIPPASKGMGGAYS
MGYDPYDFDLGEYDQKGTVEFRFGSKQLVNMINTAHAYGIKVIADIVINHRTGGDLEW
NPFVGDYTWTFDSKVASGKYTANYLDFHPNEVKCCDEGTFGGFPDIAHEKSWDQHWLW
ASDESYAAYLRSIGVDAWRFDYVKGYGAVVVKDWDLDWGGWAGGEYWDITNDALL
NWAYSSDAKVDFPLYYKMDAEAFDNKNIPALVSALQNGQTVVSRDPFKAATVFVANHDTD
ITWNKYPAYAFILTYEQPTIFRYDYEELWLNKDKLKNLIWIHNDNLAGGSTDIVYYNDNELIF
VRNGYSGKPLITYINLASSKAGRWVYVPKFAGACIHEYTGNLGGWVDKWDVSSGWY
LEAPAHDPANGYYGYSVWSYCGVG

SEQ ID NO.: 55

Figure 16 (cont.)

ATGGCCAAGTACCTGGAGCTCGAGGAGGGCGGGTTCATAATGCAGGCGTTCTACTGGG
ACGTGCTTCAGGAGGAATATGGTGGGACACAATACGGCAGAAGATACCGGAGTGGT
ACGATGCGGGAATCTCCGCAATATGGATTCCCGCGCGAGCAAGGGCATGGGCGGCGC
CTATTCGATGGGCTACGACCCCTACGACTTCTTGACCTCGGTGAGTACGACCGAGAAG
GGAACGGTAGAGACGCGCTTTGGCTCCAAGCAGGAGCTCGTGAACATGATAAACACC
GCCACCGCTATGGCAAGAAGGTAATAGCCGATATAGTCATCAACCACCGCGCCGGCG
GTGACCTGGAGTGAACCCCTTCGTGAACGACTATACCTGGAGCCGACTTCTCAAAGGT
CGCGTCGGGTAAATACACGGCCAACTACCTCGACTTCCACCCGAAACGAGCTCCATGCG
GGCGATTCCGGAACATTGGAGGCTATCCCGACATGCCACGACAAGAGCTGGGACC
AGTACTGGCTTCGGGCCAGCCAGGAGAGCTACCGCGGCATATCTCAGGAGCATCGGCAT
CGATGCTGGCGCTTTGACTACGTGAAGGGCTACGGAGCGTGGGTCTGTCAGGAAGTGG
CTCAACTGGTGGGCGCGTGGGCGGTTGGCGAGTACTGGGACACCAACGTTGATGCAC
TCCTCAACTGGGCTACTCGAGCGCGGCCAAGGTCTTCGACTTCCGCTCTACTACAAG
ATGGATGAGGCGTTGACAACAAAAACATTCCAGCGCTCGTCTCTGCCCTTCAGAACG
GCCAGACTGTTGCTCCCGGACCCGTTCAAGGCGTAACCTTTGTAGCAAAACACGA
CACCGATATAATCTGGAACAAGTACCTTGGCTTATGCTTTCATCTCACCACGGAAGGCC
AGCCCGTCAATTTACCGCGACTACGAGGAGTGGCTCAACAAGGACAGGTGTGAACA
CCTCATATGGATACACGACCCTCGCAGGTGGAAGCAGCAGATAGTTTACTACGAC
AGCGACGAGATGATCTTCGTGAGGAACGGCTATGGAAGCAAGCCTGGCCTTATAACT
ACATCAACCTCGGCTCGAGCAAGGTTGGAAGGTGGTTCAGTTCCGAAGTTCGCAAG
CTCGTGATACACGAGTACACCGGCAATCTCGGCGGCTGGGTGGACAAGTGGGTGGAC
TCAAGCGGCTGGGTCTACTCGAGGCTCTGCCACGACCCGCGCAACGGCCAGTACG
GCTACTCCGTCTGGAGCTATTGCGGTGTGGCTGA

SEQ ID NO.: 56

MAKYLEEEGGVIMQAFYWDVPSGGIWWDTIRQKIPWEYDAGISAIWIPPASKGMGGAYS
MGYDPYDFDLGEYDQKGTVETRFSGKQELVNMINTAHAYGMKVIADIVINHRAAGDLE
WNPFVNDYTWTFDSKYASGKYTANYLDFHPNELHAGDSGTGGYPDICHKSWDQYWL
WASQESYAAYLRSIGIDAWRFDYVKGYGAWVVKDWLNNWGGWAVGEYWDNTVDALL
NWAYSSGAKVDFPLYYKMDEAFDNKNIPALVSALQNGQTVVSRDPFKAVTFVANHDIT
IWNKYLAYAFILTYEGQPVIFYRDIYEELNKNDRNLNLIWIHDHLAGGSTISIVYYDSDEMIF
VRNGYGNKPLGTIYNLGSXVGRVYVVPKFAAGSCIHEYTGNLGGWVDKWDVSSGWVYL
EAPAHDPANGQYGYSVWSYCGV

SEQ ID NO.: 57

ATGGCCAAGTACCTGGAGCTCGAAGAGAGCGGGTTCATAATGCAGGCGTTCTACTGGG
ACGTGCTTCAGGAGGAATATGGTGGGACACAATACGGCAGAAGATACCGGAGTGGT
ACGATGCCGAATCTCCGCAATATGGATTCTCCCGCGAGCAAGGGTATGAGCGCGCG
CTATTCGATGGGCTACGACCCCTACGATTAATTTGACCTCGGTGAGTACTACCAAGAAG
GACCGGTGGAACGAGGTTTCGGCTCAAAGCAGGAGGCTCAATAACATGATAAACACCG
CCCACGCTACGGCATCAAGGTATCGCAGACATAGTAATCAACCACCGCGCCGGAAGG
AGACCTTGAGTGAACCCCTTCGTCATAGTACTACCTGGACGGACTTCGAAGGTC
GCTTCGGCAAGTACACGGCCAACCTCGACTTCCACCCCAACGAGGTCAAGTGCT
GTGACGAGGGACATTTGGAGGCTTCCAGACATAGCCACGAGAGAAGAGCTGGGACC
AGCATGGCTTCGGGCGAGCATGAGAGCTACGCGGCTACCTAAGGAGCATTCGGCGT
TGATGCTGGCGCTTTGACTACGTGAAGGGCTACGGAGCGTGGGTCTGTCAGGACTGG
CTCAACTGGTGGGTGGCTGGGCGGTCGGGGAGTACTGGGACACAAACGTTGATGCAC
TGCTCAACTGGGCTACTCGAGCGATGCAAAAGCTTCGACTTCCGCTCTACTCAAG
ATGGACGAGGCCTTCGATAACAACAACATTCGCCGCTGGTGGACGCCCTCAGATACG
GTCAGACAGTGGTCAGCCGCGACCCGTTCAAGGCTGTGACGTTTGTAGCCAACACGA

Figure 16 (cont.)

TACCGATATAATCTGGAACAAGTACCTTGCTTATGCTTTCATCCTCACCTACGAAGGCC
AGCCCGTCATATTCTACCGCGACTACGAGGAGTGGCTCAACAAGGACAGGTGGAACAA
CCTCATGTGATGATACACGACCTCGCAGGTGGAAGCACTGACATCGTTTACTACGAC
AACGACGAGCTGATATTCTGTGAGAAACGGCTACGGAAGCAAGCCGGGACTGATAACA
TACATCAACCTCGCCTCAAGCAAAGCCGGAAGGTGGGTCTACGTTCCGAAGTTCGCGG
GAGCGTGATCCACGAGTACACCGGCAACCTCGCGCGCTGGGTGGACAAGTGGGTGG
ACTCAAGCGGGTGGGTGATCTCGAGGCCCTGCCACGACCCGCGCAACGGCTATTA
CGGCTACTCCGCTCGGAGCTATTGCGGTGTTGGCTGA

SEQ ID NO.: 58

MAKYLEEESGVIMQAFYWDVPSGGIWWDTIRQKIPEWYDAGISAIWIPPASKGMSGYS
MGYDPDYDFDLGEYQYQKGTVETRFSGSKQELNMINTAHAHYGIKVIADIVNHRAGGDLW
NPFVNDYTWDFSKVAGSKYNTANYLDFHPNEVKCCDEGTFGGFPDIAHEKSWDQHWLW
ASDESAYALYRSIGVDAWRFDYVKYGAWVVKDWLNWQWGWAVGEYWDVNVNALL
NWAYSSDAKVFDFLYYKMEAFDNNNIPALVDALRYGQTVVSRDPFKAVTTFVANHDT
IWNKYLAAYFILTYEQPVIFRYDYEWLNKDRLNNLIWIHDLHAGGSTDIVVYDNDIELF
VRNGYGSKPLGLITYINLASSKAGRWWYVPKFAGACIHEYTGNLGGWVDKWVDSSGWY
LEAHPDHPANGYYGYSVWSYCGVG

SEQ ID NO.: 59

atggccaagctacgtgagctcgaagaggcggtgataatgagggctgtctactggagctgctcctcaggagaataggtgggacacaa
acggcagagataccggagtgatcatgcccgaatctccgcaataggtatctcccgagcagagggtatgagcggcggtatctgatgg
gctacagccctacgattatitgacctgggtgactactacagaagggaacgggtgggaacgaggtcggctcaagcagagctcataaacat
gataaacacgccccacgctcagcgatcaagggtcatcgacacatagtaatacaaccaccgcccggaggagacgttgagtaaaccttcg
tcaatgactacacgtgagcggagcttctgaaggctgcttccggcgaagtacacggcccaatcctcgtacttccaccgaacgagctccatggg
gcgattccggaacatttggaggctatcccacatatgccacgaaagagctgggacacgtactgctctggccagcagcagagactacgcg
gcatactcaggaacatcggcagctgatgcttgcgcttcgactacgtcaagggtctgctcctggtcgtcgaaggactggctgaactgggtggg
gaggtcggcggttggagagctgggacacacacgtcgaactgcttcaactggcgtacacgagcgggtccaaaggcttctgacttcgctc
ctactacaagatggagcagggccttcgatacaacaacattcccgcctgggtgacgcccctcagatagcagtgacagcggcgaccc
cggtcaaggctgtgacgtttgtagccaaccacgataccgataatgttgaacaagtaccggcgctacgcttctcctaccacagggcgag
ccgacgatactcagcgactacgaggaggtggtcacaaggacaggtcagaacctatctgatacagaccacctcggcggtggaag
cactgacatcgtttactacgacacgacgagctgatactctggaagacggctacggaagcagccgggactgatacatcaacacacccgc
gtcaagcaagcgggaaggtgggtttatgtgcgaagttcgcggcgctgcatccacgagtaactgtgtaacctcggagcgtggtagaca
agctagctgtactcaagcggctgggtctatctcgaagctcagcttaccgacctgccacggcgagtagtggctactcgtgtggagctattgagg
gttgggtga

SEQ ID NO.: 60

Met Ala Lys Tyr Leu Glu Leu Glu Gly Gly Val Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Ser
Gly Gly Ile Trp Trp Asp Thr Ile Arg Gln Lys Ile Pro Glu Trp Tyr Asp Ala Gly Ile Ser Ala Ile Trp
Ile Pro Pro Ala Ser Lys Gly Met Ser Gly Gly Tyr Ser Met Gly Tyr Asp Tyr Asp Tyr Phe Asp
Leu Gly Glu Tyr Tyr Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Ile Asn Met
Ile Asn Thr Ala His Ala Tyr Gly Ile Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly Asp
Leu Thr Trp Asn Pro Phe Val Asn Asp Tyr Thr Trp Asp Phe Ser Lys Val Ala Ser Gly Lys Tyr
Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Leu His Ala Gly Asp Ser Gly Thr Phe Gly Gly Tyr
Pro Asp Ile Cys His Asp Lys Ser Trp Asp Gln Tyr Trp Leu Thr Ala Ser Gln Glu Ser Tyr Ala Ala
Tyr Leu Arg Ser Ile Gly Ile Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Ala Pro Trp Val Val
Lys Asp Trp Leu Asn Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Asp Thr Asn Val Asp Ala Val
Leu Asn Trp Ala Tyr Ser Ser Gly Ala Lys Val Phe Asp Phe Ala Leu Tyr Lys Met Asp Glu Ala
Phe Asp Asn Asn Asn Ile Pro Ala Leu Val Asp Ala Leu Arg Tyr Gly Gln Thr Val Val Ser Arg Asp
Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro Ala Tyr

Figure 16 (cont.)

Ala Phe Ile Leu Thr Tyr Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu Asn Lys
Asp Arg Leu Lys Asn Leu Ile Trp Ile His Asp His Leu Ala Gly Gly Ser Thr Asp Ile Val Tyr Tyr
Asp Asn Asp Glu Leu Ile Phe Val Arg Asn Gly Tyr Gly Ser Lys Pro Gly Leu Ile Thr Tyr Ile Asn
Leu Ala Ser Ser Lys Ala Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ala Cys Ile His Gly Tyr
Thr Gly Asn Leu Gly Gly Trp Val Asp Lys Tyr Val Tyr Ser Ser Gly Trp Val Tyr Leu Glu Ala Pro
Ala Tyr Asp Pro Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 61

atggccaaagtactctcagctgataaaaggcggggtcataatgcaggcggttctactggacgtgccttcaggaggaatatgtgggacacaa
acggcgaagaatgacccggagtgtgacgagcggggaatatccgcaatttgattctctcccgagcaaaaggatgagcgccgctattcatggtg
gctacgaccctctacgattatttgactcgggtgagctactaccagaagggaacgggtggaacgaggttcggctcaaaaggaggagctcataaact
gataaaccgcccacgctacggcatcaaaggctcatcgacacatagtaatcaaccaccgcgcggaggagaccttgagtggaacccctc
tcaatgactacacgtggacgactctcgaaggtcgttcgggcaagatcacggccaactacatccaccggaacgagctcatcgagg
gcgattccggacaatttgaggctatccgacatgcccacgacaagagctgggaccagctagcttgcctggccagccaggagagctacgcg
gcatatctcaggagcatcgcatcgatgcctggcgcttcgactactgcaagggtctacggagcgtgggtctgcaaggactggctggaactggtg
gggagcgtggcgctggggaggtatcgggacacaacgttgatgactgctcaactggcgctactcagcgatgcgaagaactgcttgactcc
gctctactacaaggatggatggagcccttgacaacaanaaacttcacgctcgtctctgccttcagaaacggccagactgtgtgtctccgagacc
cgttcaaggccgtaacctttgtagcaaacctgacaccgataaacttggaacaagtatccagctacgctgttcaactctacgagggccag
ccgacaatttctaccggactacgaggagtggtcgaacaaaggataagctcaagaacctatcttgatacatgacaacctcgcggagggaag
caccgacatgcttactacgataaactgaactctatctctgacgaacggctacggggacaaagccggggttataacctacatacaacctagc
tcgacgaagccggaagggtgggtctacgttccgaaggttcggggagcgtgcatccacgataccggcaacctcgcggcgtgggtggaca
agtgggtggaactcaaggcggtgtgacctcgaaggccctcgccacgaccggcgaacggctattaccgctactcgtctggaactactgc
gggggtgggtga

SEQ ID NO.: 62

Met Ala Lys Tyr Ser Glu Leu Lys Lys Gly Gly Val Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Ser
Gly Gly Ile Trp Trp Asp Thr Ile Arg Gln Lys Ile Pro Glu Trp Tyr Glu Ala Gly Ile Ser Ala Ile Trp
Ile Pro Pro Ala Ser Lys Gly Met Ser Gly Gly Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Tyr Phe Asp
Leu Gly Glu Tyr Tyr Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Ile Asn Met
Ile Asn Thr Ala His Ala Tyr Gly Ile Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly Asp
Leu Glu Trp Asn Pro Phe Val Asn Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Asp Gly Tyr Lys Tyr
Thr Ala Asn Tyr Leu Asn Phe His Pro Asn Glu Leu His His Ala Gly Asp Ser Gly Thr Phe Gly Gly Tyr
Pro Asp Ile Cys His Asp Lys Ser Trp Asp Gln Tyr Trp Leu Trp Ala Ser Gln Glu Ser Tyr Ala Ala
Tyr Leu Arg Ser Ile Gly Ile Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Gly Ala Trp Val Val
Lys Asp Trp Leu Asp Trp Trp Gly Trp Ala Val Gly Glu Tyr Trp Asp Thr Asn Val Asp Ala
Leu Leu Asn Trp Ala Tyr Ser Ser Asp Ala Lys Val Phe Asp Phe Pro Leu Tyr Tyr Lys Met Asp Glu
Ala Phe Asp Asn Lys Asn Ile Pro Ala Leu Val Ser Ala Leu Asn Gly Gln Thr Val Val Ser Arg
Asp Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro Ala
Tyr Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu Asn
Lys Asp Lys Leu Lys Asn Leu Ile Trp Ile His Asp Asn Leu Ala Gly Ser Thr Asp Ile Val Tyr
Tyr Asp Asn Asp Glu Leu Ile Phe Val Arg Asn Gly Tyr Gly Asp Lys Pro Gly Leu Cys Ile Thr Tyr Ile
Asn Leu Gly Ser Ser Lys Ala Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ala Cys Ile His Glu
Tyr Thr Gly Asn Leu Gly Gly Trp Val Asp Lys Trp Val Asp Ser Ser Gly Trp Val Tyr Leu Glu Ala
Pro Ala His Asp Pro Ala Asn Gly Tyr Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 63

atggccaaagtactctgagctcgaaggcggggtcataatgcaggcggttctactggagcgtgccttcaggaggaatatgtgggacacaa
acggcgaagaatgacccggagtgtgacgagcggggaatatccgcaatttgattctctcccgagcaaaaggatgagcgccgctattcatggtg
ggctacgaccctctacgactctttgacctgggtgagctacaccaagggaacggtagacagcgttggctccaagcaggagctcgtgaa
catgataaacacgcccctgctactggcataaaggccatagcggaacatgctataaaccaccgcgcaggcggagacctcagtggaacccg

Figure 16 (cont.)

ttctgttgggactacacttggacggacattctcaaaagggtggcctcgggcaaatatactgccaactactcgtacttccaccccaacgagggtcaagt
gctgtgacgagggacatttggagggttccagacatagccacagaaagagctgggaccagcactggctctggcgagcagtgagagcta
cgccgectactaaaggagcatcggctgttgcttggcgttggactactggaaggctacggagcgtgggtcgtcaaggactggctcaactg
gtggggcgggctggccgttggcgagtaactgggacaccaacgtgtgatcactctcaactggccctactcagcggcgccaaggcttctgactt
cccgcttactacaagatgggacgcggccttggacacaagaacattccgcactcgtcagggccctcaagaacggggcgacagtctgcagcc
cgaccgcgttaaggccgttaacctgttggcaaacacgacacgatataatcggaaacagatccagctacgcgttactccaccactacgag
ggccagccgcacaaatttctacgcgactacagggaggtggctcaacaaggataagctcaagaacctacttggatatacagacacctcggcg
aggaagcaccgacatagtctactacgataacgatgaactcatcttctcaggaacggctacgggggacaagccggggcttataacctacatcaa
ctaggtgctgagcaaggcggaagggtgggttatgtgcccgaagtcgcggggcgctgcattccacgagatatactgttaacctcggaggtggg
tagacaagtactgctactcaaggcgctgggtctatctcgaagctccagcttacgacctggccaaggcgagtagtactcgtgtggagcta
ctcgggggtggggta

SEQ ID NO.: 64

Met Ala Lys Tyr Leu Glu Leu Glu Gly Gly Val Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Ser
Gly Gly Ile Trp Trp Asp Thr Ile Arg Gln Lys Ile Pro Glu Trp Tyr Asp Ala Gly Ile Ser Ala Ile Trp
Ile Pro Pro Ala Ser Lys Gly Met Gly Gly Ala Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Phe Phe Asp
Leu Gly Glu Tyr Asp Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Val Asn
Met Ile Asn Thr Ala His Ala Tyr Gly Ile Lys Ala Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly
Asp Leu Glu Trp Asn Pro Phe Val Gly Asp Tyr Thr Trp Trp Asp Phe Ser Lys Val Ala Ser Gly Lys
Tyr Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Val Lys Cys Cys Asp Gly Gly Thr Phe Gly
Gly Phe Tyr Asp Ile Ala His Lys Ser Trp Asp Gln His Lys Trp Leu Trp Ala Ser Asp Glu Ser Tyr
Ala Ala Tyr Leu Arg Ser Ile Gly Val Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Gly Ala Trp
Val Val Lys Asp Trp Leu Asn Trp Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Tyr Trp Asn Val Ser
Ala Leu Leu Asn Trp Ala Tyr Ser Ser Gly Ala Lys Val Phe Asp Phe Pro Leu Tyr Tyr Lys Met Asp
Ala Ala Phe Asp Asn Lys Asn Ile Pro Ala Leu Val Glu Ala Leu Lys Asn Gly Gly Thr Val Val Ser
Arg Asp Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro
Ala Tyr Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu
Asn Lys Asp Lys Leu Lys Asn Leu Ile Trp Ile His Asp Asn Leu Ala Gly Gly Ser Thr Asp Ile Val
Tyr Tyr Asp Asn Asp Glu Leu Ile Phe Val Arg Asn Gly Tyr Gly Asp Lys Pro Gly Leu Ile Thr Tyr
Ile Asn Leu Gly Trp Ser Lys Ala Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ala Cys Ile His
Glu Tyr Thr Gly Asn Leu Gly Gly Trp Val Asp Lys Tyr Ser Ser Gly Trp Lys Tyr Trp Lys Glu
Ala Pro Ala Tyr Asp Pro Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 65

atggccaagtactccgagctggaagaaggcgccgttataatgcaggcccttactgggacgtccagggtggaggaatctgggtgggcaccat
caggagcaagataccggaggtgtgactgagcggggaatattccgacattggattctcccgagcgaagggtatgagcggcggtatttcgagtg
gctacgacccctacgattatttggactcgtgtgactactcagaagggaacgggtggaacgaggttggctcaaaagcaggagctataaacat
gataaacaccgccacgcctatggcatgaaggttaatagccgatatagtcatcaaccaccgcggcggtgacctggaggtgaaccccttctgt
gaacgactatctggaccgacttctcaaaaggctcgtcgggttaataacacggccaactactcgtacttccaccogaacgagctcatcgccgg
cgattcgggaacatttggaggtcaccgacatatgcacagacaagagctgggaccagctatggccagcagcagagcagcagcagcagc
catactcaggagcatcggcactgatgcctggcgttcgactacgtcaagggtatgctccctgggtcgtcaaggagctggctgaactgtgtggg
aggctggcggttggagagtaactgggacaccaacgtcgcagctgttctcaactgggctactcagcgggtgcgaaggcttcttgaactcgcct
tactacaagattggagcaggccttgataacaacacattccgcctgttgggaccgtcagctcagcagcagctgagcagcagcagcagc
gttcaaggctgtgactgtttagtgcacaccgataccgatataatttggaaacagtaccgcctactcattcattcaccacacgagcggcagc
cgacgatattctactcgcgactacgaggaggtggctcaacaaggacagctcaagaacctacttggatatacagcacccctcgcgggtggaagc
acgagcagatgtttactacgacagcagagagatattctgtgaggaacggctatggaagcaagcgtggtcgttataacttaccacacccctggctc
gagcagaatgttggaaagggtgttactgttcgaagcttcgaggtcgtgctatatacagagtagacacggcaattctcggcggtgggtgacaaagt
gggtggactcaagcggcgtgggtctacctcagggtcctgcgccagaccggcgccacggccagtagtggtcactcgtcgtgagctattcgggt
gttggctga

Figure 16 (cont.)

SEQ ID NO.: 66

Met Ala Lys Tyr Ser Glu Leu Glu Glu Gly Gly Val Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Gly
Gly Gly Ile Trp Trp Gly Thr Ile Arg Ser Lys Ile Pro Glu Trp Tyr Glu Ala Gly Ile Ser Ala Ile Trp Ile
Pro Pro Ala Ser Lys Gly Met Ser Gly Gly Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Tyr Phe Asp Leu
Gly Glu Tyr Tyr Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Ile Asn Met Ile
Asn Thr Ala His Ala Tyr Gly Met Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly Asp
Leu Glu Trp Asn Pro Phe Val Asn Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys Tyr
Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Leu His Ala Gly Asp Ser Gly Thr Phe Gly Gly Tyr
Pro Asp Ile Cys His Asp Lys Ser Trp Asp Gln Tyr Trp Leu Trp Ala Ser Gln Glu Ser Tyr Ala Ala
Tyr Leu Arg Ser Ile Gly Ile Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Val Trp Val Val
Lys Asp Trp Leu Asn Trp Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Asp Thr Asn Val Asp Ala Val
Leu Asn Trp Ala Tyr Ser Ser Gly Ala Lys Val Phe Asp Phe Ala Leu Tyr Tyr Lys Met Asp Glu Ala
Phe Asp Asn Asn Asn Ile Pro Ala Leu Val Asp Ala Leu Arg Tyr Gly Gln Thr Val Val Ser Arg Asp
Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro Ala Tyr
Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Glu Trp Leu Asn Lys
Asp Arg Leu Lys Asn Leu Ile Trp Ile His Asp His Leu Ala Gly Gly Ser Thr Ser Ile Val Tyr Tyr
Asp Ser Asp Glu Met Ile Phe Val Arg Asn Gly Tyr Gly Ser Lys Pro Gly Leu Ile Thr Tyr Ile Asn
Leu Gly Ser Ser Lys Val Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ser Cys Ile His Glu Tyr
Thr Gly Asn Leu Gly Gly Trp Val Asp Lys Trp Val Asp Ser Ser Gly Trp Val Tyr Leu Glu Ala Pro
Ala His Asp Pro Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 67

atgccaaagtacctggagctcgaagagggcgggggtcataatgcaggcgttctactggcagctgccttcgggagaatatggfgggacacaat
accgcagaaagataaccggagtggtgacgatgcgcgaatctccgcaatgatgattctcccgagcaagggtatgagcggcgctattcgatgg
gctacgaccctacgattatttgcactcggtagtactaccagaagggaacggcgtggaacgaggttcggctcaaaagcagagctcataaacat
gataaacacggcccatgctcaccgcataaaggtcatagcggacatcgtcataaaaccacgcgcagagggcgagactcgagtcggaaccgctgt
gttggggactacacctggacggaacttctcaaaagggtggcctcgggcaaatatactgccaaactacctcgacttccaccacaacgaggtcaagtgtct
gtgacgagggcacatttggagcgttcocagacatagccacgagaaagagctgggaccagcactggctctggcgagcgatgagagctacg
ccgcctacctaaaggagcatcggcgtgtgatgcttgcgttcgactacgcaagggtctacggagcgtggctcgtcaaggactggctggactgt
ggggagctggggcgtcggggagtactgggacacaaactgttgatgcactgctcaactgggctactcagcgcgatgcaaaagtcttcgacttc
ccgctctactacaagatggacgaggcgcttcgatacaacaacatctccgccctggtggagccctcagatagcgttcagacagtgttcagccgc
gacccgtcaaggctgtgacgtttgatgccaaacacgataccgataataatctggaacaagtatcagcctacgcttccatccactacgaggg
ccagcgcacaatattctaccgcgactacgaggagtgctcaacaaggataagctcaagaactcactctgatacatgacaaactccgcggagc
gaagcacgacgatgttactacgacacgacgagatgactcttgtaggaacgctatggaagcaagcctggccttataactcatacaacact
cggctgacgaagggttgacgaagggtgggtggtctactggtccgaagttcgccggagcgtgcatccacgagtacaccgcaacctcggcgctgggtg
gacaagtgggtggactcaacggcgtggtgttacctcaggccctcgccacacccggccaacggctattacggctactcgtctggagcta
ctgctggtgggctga

SEQ ID NO.: 68

Met Ala Lys Tyr Leu Glu Leu Glu Glu Gly Gly Val Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Ser
Gly Gly Ile Trp Trp Asp Thr Ile Arg Gln Lys Ile Pro Glu Trp Tyr Asp Ala Gly Ile Ser Ala Ile Trp
Ile Pro Pro Ala Ser Lys Gly Met Ser Gly Gly Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Tyr Phe Asp
Leu Gly Glu Tyr Tyr Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Ile Asn Met
Ile Asn Thr Ala His Ala Tyr Gly Ile Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly Asp
Leu Glu Trp Asn Pro Phe Val Gly Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys Tyr
Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Val Lys Cys Cys Asp Glu Gly Thr Phe Gly Gly
Phe Pro Asp Ile Ala His Glu Lys Ser Trp Asp Gln His Trp Leu Trp Ala Ser Asp Glu Ser Tyr Ala
Ala Tyr Leu Arg Ser Ile Gly Val Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Gly Ala Trp Val
Val Lys Asp Trp Leu Asp Trp Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Asp Thr Asn Val Asp Ala
Leu Leu Asn Trp Ala Tyr Ser Ser Asp Ala Lys Val Phe Asp Phe Pro Leu Tyr Tyr Lys Met Asp Glu

Figure 16 (cont.)

Ala Phe Asp Asn Asn Ile Pro Ala Leu Val Asp Ala Leu Arg Tyr Gly Gln Thr Val Val Ser Arg
Asp Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro Ala
Tyr Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu Asn
Lys Asp Lys Leu Lys Asn Leu Lys Ile Trp Ile His Asp Asn Leu Ala Gly Gly Ser Thr Ser Ile Val Tyr
Tyr Asp Ser Asp Glu Met Ile Phe Val Arg Asn Gly Tyr Gly Ser Lys Pro Gly Leu Ile Thr Tyr Ile
Asn Leu Gly Ser Ser Lys Val Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ala Cys Ile His Glu
Tyr Thr Gly Asn Leu Gly Trp Val Asp Lys Trp Val Asp Ser Ser Gly Tyr Val Tyr Leu Glu Ala
Pro Ala His Asp Pro Ala Asn Gly Tyr Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Val Val Gly

SEQ ID NO.: 73

atggctctggaaggaggcgggcttataatgcaggccttctactgggacgtcccagggtggaggaatctgggtggacaccatagcccagaagat
accgcactggggcggagcggcgggatttcggcaatattggattcctccggcagtgtaaggccatgagcggcggtctattgatgggctacgacct
acgattcttgacctgggtgagtactaccagaagggaagcgttgagaccgcttcggatcaaaaggaggctgtgaacatgataaacaccgc
ccatgcctcaacatgaaggctatagcggacatagctatcaaccacgcgcggcgacgtggatgtaaacctttcaccacaagctacac
ctggaccgatttctgaaggctcgcgtgcggccaagttacacggcccaactaccctgacttccaccgaacgagcttcacggcggtattccgaa
catttggaggctatccgacatattgccacgacaagagctgggaccagcactggctctggccagcgaacgaagactgacccgctactccgg
agcatcgggcatgacgcttggccttcgactacgtcaagggtctacgctccctgggtcgttaagaacttgctgaaccgggtggggcggttgggg
gggttggagagtagtgggacacaacgctgagtcactcctgagctgggctctacgacagcgggtgcttaaaagtcttgcactccgctctatacaag
atggacgaggccttcgataacaacaacatccccgccctcgtggacgccctcaagaacggagcgacggctcgtcagccggcagccgttcaag
ccgtgacctctgttgcacaacacgataccaacaataatctggaacaagatcggcctacgcttcatctcctactatgaggagcagcgcgcaat
attctaccgcgactcagcaggagtgctccaacaggacaggtcaggaaacctcatctggatcacgaccacctcgcggaggaagcagcagac
atcatctactacgacagcgacgagcttatcttcgtgagaacgcgtacggggcaagccgggactgataaccatcatcaacctcggctcaagc
aaggccggaaagggtggtctacgttcgaagttcgcaggtcgtgcatacaggatcacccggcaacctcggcggtcgattgacaagtgggt
tgactcaaggcgttcgggtctacttgaggcgcccgccacgaccggccaagggccagtagtaccgctactcgtatggagctactcgggtgttg
ggtga

SEQ ID NO.: 74

Met Ala Leu Glu Glu Gly Gly Leu Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Gly Gly Gly Ile Trp
Trp Asp Thr Ile Ala Gln Lys Ile Pro Asp Trp Ala Ser Ala Gly Ile Ser Ala Ile Trp Ile Pro Pro Ala
Ser Lys Gly Met Ser Gly Gly Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Phe Phe Asp Leu Gly Glu Tyr
Tyr Gln Lys Gly Ser Val Glu Thr Arg Phe Gly Ser Lys Glu Glu Leu Val Asn Met Ile Asn Thr Ala
His Ala His Asn Met Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly Asp Leu Glu Trp
Asn Pro Phe Thr Asn Ser Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys Tyr Thr Ala Asn
Tyr Leu Asp Phe His Pro Asn Glu Leu His Ala Gly Asp Ser Gly Thr Phe Gly Gly Tyr Pro Asp Ile
Cys His Asp Lys Ser Trp Asp Gln His Trp Leu Trp Ala Ser Asn Glu Ser Tyr Ala Ala Tyr Leu Arg
Ser Ile Gly Ile Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Ala Pro Trp Val Val Lys Asn Trp
Leu Asn Arg Trp Gly Gly Glu Ala Val Gly Glu Tyr Trp Asp Thr Asn Val Asp Ala Leu Leu Ser Trp
Ala Tyr Asp Ser Gly Ala Lys Val Phe Asp Phe Pro Leu Tyr Tyr Lys Met Asp Glu Ala Phe Asp
Asn Asn Asn Ile Pro Ala Leu Val Asp Ala Leu Lys Asn Gly Gly Thr Val Val Ser Arg Asp Pro Phe
Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asn Ile Ile Trp Asn Lys Tyr Pro Lys Tyr Ala Phe Ile
Leu Thr Tyr Glu Gly Gln Pro Ala Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu Asn Lys Asp Arg Leu
Arg Asn Leu Ile Trp Ile His Asp Tyr His Leu Ala Gly Gly Ser Thr Asp Ile Ile Tyr Tyr Asp Ser Asp Glu
Leu Ile Phe Val Arg Asn Gly Tyr Gly Asp Lys Pro Gly Leu Ile Thr Tyr Ile Asn Leu Gly Ser Ser
Lys Ala Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ser Cys Ile His Glu Tyr Thr Gly Asn Leu
Gly Gly Trp Ile Asp Lys Trp Val Asp Ser Ser Gly Arg Val Tyr Leu Glu Ala Pro Ala His Pro Asp Ser
Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 75

atggctctggaaggaggcgggcttataatgcaggcattctactgggacgtcccagggtggaggaatctgggtggacacgatagcccagaagat
accgcactgggcaagcgccgggatttcggcagatggattcccccgcgcaagggtatgagcggcggtctattcgattgctacgacctt

Figure 16 (cont.)

acgattattttgacctgggtgagtactaccagaagggaacgggtggaacaagattcggctcaagcaggagctcataaacaftgataaacaccg
 cccacgccatgcatgaaggtaataagccgatatagtcatacaaccaccgcccggcgccgatctggagtggaacccctctgtgaacgactata
 ccttgaccgacttctcgaaggctgcgtgggtaataacacggcccaactacctcgacttccaccggaacgagctccacggggcgattccgga
 acatttggagctatcccacatctgcacgaagaagctgggaccagtactggctctggccagccaggagagctacgcgcctatctcag
 gagcatcggcatcgacgacctggcgctcgactacgtcaaggcgctatgctccctgggtcgtcaggagactgctgaactgtgggggagggctggg
 cagtttggagagtctgggacaccaaagctgcagctgttctcaactggcgatactcgagcggtgccaaggctcttctgactcgcctctactacaag
 atggcagaggcctctgataaacacaacattccgacctgtgggacgccccagatagacggccagacagtggtcagccgcgacccgtctcaaggc
 tggcagctgttgagcaaacacgataccgacataacttggacaacagatccagcctacgcttctcctacacaggggccaagccgacaatat
 tctaccgcgactacgaggagtgctcacaagaaggacaagctcaagaacctatctggatacatgacaacctcgcggaggaggacactgacatc
 gtttactcgaacaacgacgagctgatacttctgfgaagacggctacggaagcaagccgggacatgataacatacaacctcgcctcaagcaaa
 gccggaagggtgggttactcgtcgaagttcgcaggctcgtgcatacacgagtacaccggcaacctcggcgctgggtggacaaftgggtggga
 ctcaagcggtcgggttacctgaggctctcggccacgaccggccaacggccagtagcggctactcctgttgagctattggcgtgttgggtga

SEQ ID NO.: 76

Met Ala Leu Glu Gly Gly Gly Leu Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Met Gly Gly Ile Trp
 Trp Asp Thr Ile Ala Gln Lys Ile Pro Asp Trp Ala Ser Ala Gly Ile Ser Ala Ile Trp Ile Pro Pro Ala
 Ser Lys Gly Met Ser Gly Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Tyr Phe Asp Leu Gly Gly Tyr
 Tyr Gln Lys Gly Thr Val Gln Thr Arg Phe Gly Ser Lys Gln Glu Leu Ile Asn Met Ile Asn Thr Ala
 His Ala Tyr Gly Met Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly Asp Leu Glu Trp
 Asn Pro Phe Val Asn Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys Tyr Thr Ala Asn
 Tyr Leu Asp Phe His Pro Asn Glu Leu His Ala Gly Asp Ser Gly Thr Phe Gly Tyr Pro Asp Ile
 Cys His Asp Lys Ser Trp Asp Gln Tyr Trp Leu Trp Ala Ser Gln Glu Ser Tyr Ala Tyr Leu Arg
 Ser Ile Gly Ile Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Ala Pro Trp Val Arg Asp Trp
 Leu Asn Trp Trp Gly Tyr Ala Val Gly Glu Tyr Trp Asp Thr Asn Val Asp Ala Val Leu Asn Trp
 Ala Tyr Ser Ser Gly Ala Lys Val Phe Asp Phe Ala Leu Tyr Tyr Lys Met Asp Glu Ala Phe Asp Asn
 Asn Asn Ile Pro Ala Leu Val Asp Ala Leu Arg Tyr Gly Gln Thr Val Val Ser Arg Asp Pro Phe Lys
 Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro Ala Tyr Ala Phe Ile
 Leu Thr Tyr Glu Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu Asn Lys Asp Lys Leu
 Lys Asn Leu Ile Trp Ile His Asp Asn Leu Ala Gly Gly Ser Thr Asp Ile Val Tyr Asp Asn Asp
 Glu Leu Ile Phe Val Arg Asn Gly Tyr Gly Ser Lys Pro Gly Leu Ile Thr Tyr Ile Asn Leu Gly Ser Ser
 Lys Ala Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ser Cys Ile His Gly Tyr Thr Gly Asn Leu
 Gly Gly Trp Val Asp Lys Trp Val Asp Ser Ser Gly Trp Val Tyr Leu Glu Ala Pro Ala His Asp Pro
 Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 77

atggctctggaagagcgccggctcataatgcaggcccttactggagctccccatgggaggaatctgggtggacacgatagccagaagat
 acccgactggcgaagcgccgggttctggcgatatggatccctcccgagcaagggtatgagcgccggctattcgatgggctacgacct
 acgattatttgacctgggtgagtactaccagaagggaacggctgggaacgaggttcggctcaaaagcaggagctcataaacaftgataaacaccg
 cccacgcctatggcatgaaggtataagccgatatagtcatacaaccaccgcccggcggtgacctggagtggaaccccttctgtaacgactata
 cctcgacgcacttccaaaggtcgcgtcgggtgtaataacacggccaactactcgaacttccaccgcaacgagctccatggcgacttccgaa
 catttggagctatcccacatctgcacgacaagagctgggaccagtaactggctcggccgacgagcagctacgcggcatctatctcagg
 agcatcggcatcgaatcgccggcgtcgaactactgcaagggtctgctcctgggtcgtcaaggacttggctgaactgttggggagcgtcggc
 gggttggagagtctggacaccaagttcgcagctgtgttctcaacttggcactacgagcggttgaactgttcttctgactcgccttactacaaga
 ttgacgaggctctgataacacaacattcccgccgtgtggagccctcagatagctgacagacttctgacggcggaacctgtcaaggct
 gtgacgtttttagccaaccagataccacataagctcaagaagctcaatctggaatacatgacaacctcgcggaggaggagactgacatc
 ctaccgcgactacgaggagtgctgacataagctcaagaagctcaatctggaatacatgacaacctcgcggaggaggagactgacatc
 ttactcagacacgacgagctgatacttctgtaagaacggctacggaagcaagccgggagctgataacatacataacctcgcctcaagcaag
 ccggaaggtgggttactgttcgaagttcgcaggctcgtgcatacacgagtacaccggcaatctcggcgctgggtggagacaaftgggtggga
 tcaagcggtcgggttactcgtgagctcctcggccacgaccggccaacggccagtagcggctactcctgctggagctactcgtgttgggtga

Figure 16 (cont.)

SEQ ID NO.: 78

Met Ala Leu Glu Glu Gly Gly Leu Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Met Gly Gly Ile Trp
Trp Asp Thr Ile Ala Gln Lys Ile Pro Asp Trp Ala Ser Ala Gly Ile Ser Ala Ile Trp Ile Pro Pro Ala
Ser Lys Gly Met Ser Gly Gly Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Tyr Phe Asp Leu Gly Glu Tyr
Tyr Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Ile Asn Met Ile Asn Thr Ala
His Ala Tyr Gly Met Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly Asp Leu Glu Trp
Asn Pro Phe Val Asn Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Tyr Thr Ala Asn
Tyr Leu Asp Phe His Pro Asn Glu Leu His Ala Gly Asp Ser Gly Thr Phe Gly Gly Tyr Trp Asp Ile
Cys His Asp Lys Ser Trp Asp Gln Tyr Trp Leu Trp Ala Ser Gln Glu Ser Tyr Ala Ala Tyr Leu Arg
Ser Ile Gly Ile Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Tyr Ala Pro Trp Val Val Lys Asp Trp
Leu Asn Trp Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Asp Thr Asn Val Asp Ala Val Leu Asn Trp
Ala Tyr Ser Ser Gly Ala Lys Val Phe Asp Phe Ala Leu Tyr Tyr Lys Met Asp Glu Ala Phe Asp Asn
Asn Asn Ile Pro Ala Leu Val Asp Ala Leu Arg Tyr Gly Gln Thr Val Val Ser Arg Asp Pro Phe Lys
Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro Ala Tyr Ala Phe Ile
Leu Thr Tyr Glu Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu Asn Lys Asp Lys Leu
Lys Asn Leu Ile Trp Ile His Asp Asn Leu Ala Gly Gly Ser Thr Asp Ile Val Tyr Tyr Asp Asn Asp
Glu Leu Ile Phe Val Arg Asn Gly Tyr Gly Ser Lys Pro Gly Leu Ile Thr Tyr Ile Asn Leu Ala Ser Ser
Lys Ala Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ser Cys Ile His Glu Tyr Thr Gly Asn Leu
Gly Gly Trp Val Asp Lys Trp Val Asp Ser Ser Gly Trp Val Tyr Leu Glu Ala Pro Ala His Asp Pro
Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 79

atgaagcctcgcaaacctcctctgtctgtctgtatctctatctctcgcggggctctacgccagcccgcgggggcgcccaagtacctggagc
tcgaagaggcgcgctgctaataatgcaggcgttacttgggacgtgcttcaggaggaatatgttgggacacaatacggcagagataccgga
gtgtgacgatgcggaatctccgcaatatggattccccgcgagcaaggcgtatggcgccgcttattgatgggtacgacccctcagactt
ctttgacctcggtgagtcacgacgaagggaacggtagagacgcgctttggctccaagcaggagctcgtgacatgataaacacggcccaacg
cctacggcatcaaggtctatcgagacatatagtaatacaaccaccgcggcggaaggacaccttgagtgaacccccctctcaatgactacaccttga
cggactctcgaaggtcgtctccggcaagtcacacggccaactactcgaacttccaccccaacgaggttaagtctcgacgagggcacaccttg
gaggggtccccgacatagccccacgagaagagctgggaccagtactgctctggcgagcaacgagagctacgcgcctaccctacaggagca
tcggcggtgacgcatggcgcttcgactacgtcaaggctacggagcgtgggtctgcaaggacttggactggtggggagctggcgccgt
cggggagtagtctgggacacaaacgttgatgactgctcaactgggacctctgagcgatgcaaaagtcttcgacttccgcctctactacaagatg
gacggcgcttggtaacaaagaacattccgcactcgtcgaaggccctcaagaacggggcgacagctcagccgcgacccgttaaggccgt
aacctctgttgcaaacacgacacggacataatttgaacaagtaccggcctcagccttactctcactacagaggccagcgacgatattc
taccgcgactacgagga gtggctcaacaaggacaggtcgaagaacctctctggatacacgaccacctcgccggttgaagcaccgacatag
tctactacgatacgaatcaactctctctgacgaacggcgctacggggacaaagccggggcttataacctacatcaactaggctcgacgaagg
ccgggaggtgggttactgttcgaagtctcgggagcgtgcatccacgagtagtaccggcaacctcggcggttgggtgacaagtgggtgga
ctcaagcggtgtgggtgactcctgaaggccctgccacgaccggccaacggctattacggctactcgtctggagctactcgcgggtggtgct
ga

SEQ ID NO.: 80

Met Lys Pro Ala Lys Leu Leu Val Phe Val Leu Val Val Ser Ile Leu Ala Gly Leu Tyr Ala Gln Pro
Ala Gly Ala Ala Lys Tyr Leu Glu Leu Glu Glu Gly Gly Val Ile Met Gln Ala Phe Tyr Trp Asp Val
Pro Ser Gly Gly Ile Trp Trp Asp Thr Ile Arg Gln Lys Ile Pro Glu Trp Tyr Asp Ala Gly Ile Ser Ala
Ile Trp Ile Pro Pro Ala Ser Lys Gly Met Gly Gly Ala Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Phe
Phe Asp Leu Gly Glu Tyr Asp Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Gln Glu Leu Val
Asn Met Ile Asn Thr Ala His Ala Tyr Gly Ile Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly
Gly Asp Leu Glu Trp Asn Pro Phe Val Asn Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly
Lys Tyr Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Val Lys Cys Cys Asp Glu Gly Thr Phe
Gly Gly Phe Pro Asp Ile Ala His Glu Lys Ser Trp Asp Gln Tyr Trp Leu Trp Ala Ser Asn Glu Ser
Tyr Ala Ala Tyr Arg Arg Ser Ile Gly Val Asp Trp Arg Phe Asp Tyr Lys Gly Tyr Gly Ala

Figure 16 (cont.)

Trp Val Val Lys Asp Trp Leu Asp Trp Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Asp Thr Asn Val
 Asp Ala Leu Leu Asn Trp Ala Tyr Ser Ser Asp Ala Lys Val Phe Asp Phe Pro Leu Tyr Tyr Lys Met
 Asp Ala Ala Phe Asp Asn Lys Asn Ile Pro Ala Leu Val Glu Ala Leu Lys Asn Gly Gly Thr Val Val
 Ser Arg Asp Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr
 Pro Ala Tyr Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Thr Ile Phe Tyr Arg Asp Tyr Glu Glu Trp
 Leu Asn Lys Asp Arg Leu Lys Asn Leu Ile Trp Ile His Asp His Leu Ala Gly Gly Ser Thr Asp Ile
 Val Tyr Tyr Asp Asn Glu Leu Ile Phe Val Arg Asn Gly Tyr Gly Asp Lys Pro Gly Leu Ile Thr
 Tyr Ile Asn Leu Gly Ser Ser Lys Ala Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ala Cys Ile
 His Glu Tyr Thr Gly Asn Leu Gly Gly Trp Val Asp Lys Trp Val Asp Ser Ser Gly Trp Val Tyr Leu
 Glu Ala Pro Ala His Asp Pro Ala Asn Gly Tyr Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 81

atgaagaagtgtgtcggcttctcataacatgttttctgtagtgcagatggcagctgttgcacagccagctagcggccgaagtattccgagctc
 gaagaaaggcggcgtataatgcaggcccttctactgggacgtccaggggtgaggaaatctggtggacacatcaggagcaagataccggag
 ggtagcaggcgggaataatccgccatttggattccgccagccagcaagggtatgagcggcgggttactcgaatggctacgatccctacgatctt
 tgacctcggcaggtacacaccagaagggaaccatcgaacgcgcttggctctaaacaggagctcatcaatgatataaacacggcccatgccta
 cggcataaaggctcatagcggacatcgtctataaacaccgcgcagggcggagacctcaggtggaaacctgttggggactacacctggacg
 gacttctaaagggtggcctcggggcaaatatactgccaaactacctcgacttccaccccaacgaggtcaagtgctgtgacgagggcacattggag
 gcttccacagatagcccaagagaagagctgggaccagcactggcctcggcgagcgatgagagctacgccctacctaaggagacatcg
 gcgttgatcgctggcgtttgactactggaagggtctacggagcgtgggtctgtcaaggactggctcaactgtggggcgcttggcgcttggc
 gactactggacacaaagctgtgactcactcactggcctactcgaagcgccgaaggtcgaaggtcgaaggtcgaaggtcgaaggtcgaaggtc
 agggcctttagacacaaaacattccagcgcctcgtctcgtcccttcgaacggcagacgttggctcccgagccgttcaaggccgttaacct
 gtgcaaacacgacaccgataataatctggaaacagctctgttcttcttcttcttcttcttcttcttcttcttcttcttcttcttcttcttctt
 tactaggaaggtcgtcctcaacagagacaaggttgaaacaaactctatggatacacgaccacctcgcaggttgaagcagcagcatgtctactacga
 cagcgacgagatgacttctgtggaagcgcgtatggaaagcaagcctggccttataactatcatcaacctggcctgagcaaggttggaaagggtg
 ggtttatgtgcgaagtgcggcgccgtgcataccacgagtatactgttaacctggaggctggtagacaaagctacgtctactcaagcgcgctg
 ggtctatctcgaagctccagctacgacctgccaacggcgatgtgctactcgttggagctattgcgggttgggtgga

SEQ ID NO.: 82

Met Lys Lys Phe Val Ala Leu Phe Ile Thr Met Phe Phe Val Val Ser Met Ala Val Val Ala Gln Pro
 Ala Ser Ala Ala Lys Tyr Ser Glu Leu Glu Gly Gly Val Ile Met Glu Ala Phe Val Trp Asp Asp Val
 Pro Gly Gly Gly Ile Tyr Trp Asp Thr Ile Arg Ser Lys Ile Pro Glu Trp Tyr Glu Ala Gly Ile Ser Ala
 Ile Trp Ile Pro Pro Ala Ser Lys Gly Met Ser Gly Gly Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Phe
 Phe Asp Leu Gly Glu Tyr Asn Gln Lys Gly Thr Ile Glu Thr Arg Phe Gly Ser Lys Gln Glu Ile
 Asn Met Ile Asn Thr Ala His Ala Tyr Gly Ile Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly
 Gly Asp Leu Glu Trp Asn Pro Phe Val Gly Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly
 Lys Tyr Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Val Lys Cys Phe Ser Cys Asp Gly Thr Phe
 Gly Gly Phe Pro Asp Ile Ala His Glu Lys Ser Trp Asp Gln His Trp Leu Trp Ala Ser Asp Glu Ser
 Tyr Ala Ala Tyr Leu Arg Ser Ile Gly Val Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Gly Ala
 Trp Val Val Lys Trp Leu Asn Trp Trp Gly Gly Trp Val Ala Val Gly Glu Tyr Trp Asp Thr Asn Val
 Asp Ala Leu Leu Asn Trp Ala Tyr Ser Ser Gly Ala Lys Val Phe Asp Phe Pro Leu Tyr Tyr Lys Met
 Asp Glu Ala Phe Asp Asn Lys Asn Ile Pro Ala Leu Val Ser Ala Leu Gln Asn Gly Gln Thr Val Val
 Ser Arg Asp Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr
 Leu Ala Tyr Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Val Ile Phe Tyr Arg Asp Gly Ser Glu Trp
 Leu Asn Lys Asp Arg Leu Asn Asn Leu Ile Trp Ile His Asp His Leu Ala Gly Gly Ser Thr Ser Ile
 Val Tyr Tyr Asp Ser Asp Glu Met Ile Phe Val Arg Asn Gly Tyr Gly Ser Lys Pro Gly Leu Ile Thr
 Tyr Ile Asn Leu Gly Ser Ser Lys Val Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ala Cys Ile
 His Glu Tyr Thr Gly Asn Leu Gly Gly Trp Val Asp Lys Tyr Val Tyr Ser Ser Gly Trp Val Tyr Leu
 Glu Ala Pro Ala Tyr Asp Pro Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

Figure 16 (cont.)

SEQ ID NO.: 83

atggctctggaa gacggcgggctcataatgcaggccttctactgggatgttcctggaggaagaatctggtggagacaatagtctcaaaagata
cccgaatggcgaagtgcaggaatctcagcgcataatggaatccaccagcgagtaaggcatgagcgggtgttattccatggcctacgatccctac
gaattctttgacctcggcgagctactcagaaggggacagttgagacgcgcttcggctcaaaaggaaagctgttggaatcagataaacaccgca
cactctactcggcataaagggtgatagcagacatagtcataaacaccggcgccgggtggagaccttgagtggaaaccccttcgtgaacgataactact
ggacagacttctcaaaagctcctccggtaataatagcgccaactacttgactctccaccaaacgagcttactctgtgtgatgaagggtacctttg
gagggataccctgatataatgtcagacaaaagcgtgggacacgtactggctggcgagcagcgaaagctacgtcgtcactctcaggagcata
gggggtgacgcttggcgttctgactacgtcaagggtctacggagcatgggtgttaacgactgctcagctgctggggagcgttggggcgttggga
gagctactgggacacgaacgttggatgcactctcaactgggacacagcagcggcgcaaggcttcttgatctccgctctcaaaagctggtaacttt
aagccttcgacacacacaaatcccggcattagttggatgcactcagatacggcgacagacagctgtgacacccgtcctcaagagtggaag
cgttgcacacacagatacagataaacttggaaacagtafocggcttatgcatctaccttactatgagggacagcgtgttatcttaccgcgac
tacgagggatggtctcaacaa gataagcttaacaaactcctggtatcacagatcaccttgcgtggaggagctactgacattgtttactacgacag
cgacgagcttatcttggtagaaacggctatggcaccaaacacaggaactgataacctatataacacctggcgtcagcaaaagtggaaagggtggct
tacgttccaaagtgcggcgttcatgcattccacgatacaccggcaacctcggcggttggatagacaagtagctctctccagcggcgttgggt
attctgaggccccagcccacgaccggcggaacggctactacgctactcgtatggagctactgcgggggtgggtga

SEQ ID NO.: 84

Met Ala Leu Glu Asp Gly Gly Leu Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Gly Gly Gly Ile Trp
Trp Asp Thr Ile Ala Gln Lys Ile Pro Glu Trp Ala Ser Ala Gly Ile Ser Ala Ile Trp Ile Pro Pro Ala
Ser Lys Gly Met Ser Gly Gly Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Phe Phe Asp Leu Gly Gly Tyr
Tyr Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Glu Gly Leu Val Asn Met Ile Asn Thr Ala
His Ser Tyr Gly Ile Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly Asp Leu Glu Trp Asn
Pro Phe Val Asn Asp Tyr Thr Thr Asp Phe Ser Lys Val Ala Ser Gly Lys Tyr Thr Ala Asn Tyr
Leu Asp Phe His Pro Asn Glu Leu His Cys Cys Asp Glu Gly Thr Phe Gly Gly Tyr Pro Asp Ile Cys
His Asp Lys Ser Tyr Asp Gln Tyr Trp Leu Trp Ala Ser Ser Glu Ser Tyr Ala Ala Tyr Leu Arg Ser
Ile Gly Val Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Gly Ala Trp Val Val Asn Asp Trp Leu
Ser Trp Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Asp Thr Asn Val Asp Ala Leu Leu Asn Trp Ala
Tyr Ser Ser Gly Ala Lys Val Phe Asp Phe Pro Leu Tyr Tyr Lys Met Asp Glu Ala Phe Asp Asn Thr
Asn Ile Pro Ala Leu Val Asp Ala Leu Arg Tyr Gly Gln Thr Val Val Ser Arg Asp Phe Phe Lys Ala
Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro Ala Tyr Ala Phe Ile Leu
Thr Tyr Glu Gly Gln Pro Val Ile Phe Tyr Arg Asp Tyr Glu Gly Trp Leu Asn Lys Asp Lys Leu Asn
Asn Leu Ile Trp Ile His Asp Asn His Leu Ala Gly Ser Thr Asp Ile Val Tyr Tyr Asp Ser Asp Glu
Leu Ile Phe Val Arg Asn Gly Tyr Gly Thr Lys Pro Gly Leu Ile Tyr Trp Ile Asn Leu Gly Ser Ser
Lys Val Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ser Cys Ile His Gly Tyr Thr Gly Asn Leu
Gly Trp Ile Asp Lys Tyr Val Ser Ser Ser Gly Trp Val Tyr Leu Glu Ala Pro Ala His Asp Pro
Ala Asn Gly Tyr Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO.: 85

atggctctggaa gggcgggcgttaaatgcaggcattctattggagctocca ggtggaggaatctggtgggacaccatagcccaagaata
cccgaatggcgaagtgcaggaatctcagcgcataatggaatccaccagcgagtaagggaatgagcgggtgttatctcattggcctacgatccctac
gaattctttgacctcggcgagctactcagaaggggacagttgagacgcgcttcggctcaaaaggaaagactggtgaacatgaataaacaccgca
cactctactcggcataaagggtgatagcggacatagtcataaacaccggcgccgggtggagcgtcaggtggaaccccttcgtgaacgatactaac
tggacagacttccataaagctcctccgtgtaataatacagccaactacttgacttccaccaaacgagcttactctgtgtgatgaagggtacctttg
gagataccctgtatattgctcagcaaaaagctgggacagtaactggtcctggcgagcagcgaaagctcgtcgtacctcaggaagcata
gggggtgacgctggtgttgcactcgtcaaaagggtctacggcgctgggtgttaacgactggcgtcaggtgtggggagcgtcggcgcttggga
gagtaactgggacactaactgtgatgcactcctcaactgggcatacaacagcgcgccaaagcttctgacttccgctctactacaagatggacg
aagccttcgacataccaacatcccgcgttgggttacgccctcaagaatggggagcaggtggatgcgcgacaccattcaaggcggtgaacttt
cgttggcaaccacgatacagataatcttggaaacagtafocggcttatgcatctactcattatgagggacagcgtgtttatattactccgcgac
tacgaggaagtggctcaacaa gataaagcttaacacctcatctggatcacgatacacttgcgtgagggagtaactgattgtttactacgacag
cgacgagcttatcttggtagaaacggctatggcaccacaaaggactgataacctatatacaacctcggcgtcagcaaaagctggaaggtgggtg

Figure 16 (cont.)

tacgttccaaagttgccggttcgatcatccacgagtacaccggcagcctcgccgggtggatagacaagtacgtctctccacggcgtgggtct
accttggagcccccggccacgaccggccaatggccagtagtggtactccgtggagctattgcgggggtgggtga

SEQ ID NO.: 86

Met Ala Leu Glu Glu Gly Gly Leu Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Gly Gly Gly Ile Trp
Trp Asp Thr Ile Ala Gln Lys Ile Pro Glu Trp Ala Ser Ala Gly Ile Ser Ala Ile Trp Ile Pro Pro Ala
Ser Lys Gly Met Ser Gly Gly Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Phe Phe Asp Leu Gly Asp Tyr
Tyr Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Glu Glu Leu Val Asn Met Ile Asn Thr Ala
His Ser Tyr Gly Ile Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly Leu Glu Trp Asn
Pro Phe Val Asn Asp Tyr Trp Thr Trp Asp Phe Ser Lys Val Ala Ser Gly Lys Tyr Thr Ala Asn Tyr
Leu Asp Phe His Pro Asn Glu Leu His Cys Cys Asp Glu Gly Thr Phe Gly Gly Tyr Pro Asp Ile Cys
His Asp Lys Ser Trp Asp Gln Tyr Trp Leu Trp Ala Ser Ser Glu Ser Leu Ala Tyr Leu Arg Ser
Ile Gly Val Asp Ala Trp Cys Phe Asp Tyr Val Lys Gly Tyr Gly Ala Trp Val Val Asn Asp Trp Leu
Ser Trp Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Asp Thr Asn Val Asp Ala Leu Leu Asn Trp Ala
Tyr Asn Ser Gly Ala Lys Val Phe Asp Phe Pro Leu Tyr Tyr Lys Met Asp Glu Ala Phe Asp Asn
Thr Asn Ile Pro Ala Leu Val Tyr Ala Leu Lys Asn Gly Gly Thr Val Val Ser Arg Asp Pro Phe Lys
Ala Tyr Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro Ala Tyr Ala Phe Ile
Leu Thr Tyr Gly Gln Pro Val Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu Asn Lys Asp Lys Leu
Asn Asn Leu Ile Trp Ile His Asp His Leu Ala Gly Gly Ser Thr Asp Ile Val Tyr Tyr Asp Ser Asp
Glu Leu Ile Phe Val Arg Asn Gly Tyr Gly Thr Lys Pro Gly Leu Ile Thr Tyr Ile Asn Leu Gly Ser
Ser Lys Ala Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ser Cys Ile His Glu Tyr Thr Gly Ser
Leu Gly Gly Trp Ile Asp Lys Tyr Val Ser Ser Ser Gly Trp Val Tyr Leu Glu Ala Pro Ala His Asp
Pro Ala Asn Gly Gln Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO: 87

atgttctcgtcgcgtttttgtctactgcctcgtcttctgcccaacaggacagcccgccaagctgccaccggttaacggccaccatgatgca
gtattttgaatgctacttgcggatgatggcagctttatggaccaaaatggccaatgaagccaacaactatccagccttggtcatccgccttttg
gtcgcgcgcgcgttacaagaaggaacggccagcagcgttaggttacggagtagactgacttgcctggcgaaatcaataaaaaaggga
ccgtcgcgcaaaaatcggacaacaaagctcaatatcttcaaggccattcaagcccccacggcctgggaatgcaaggtgacgccgatgctgtt
cgaccataaaggcggcgtgacggcagcgaatgggtggagccgcgtcgaagtcactccgaccgcgaaccaagaatctcgggcacctat
caaatccaagcatggagcaaatgtatttccgggggggcaacacctactccagctttaaagtgccgtggtgaccattttgacggcgttgattg
gacgaagccgaataatggccgcatttacaattccggcgcatcggcaagcgtgggatgggaatgacacggaaaacggaaatgatg
actacttaagtatgccgaccttgatatgatatcccggaagctgtgaccgagctgaaaaactgggggaatgtatgtcaacacacgaacatt
gatgggttcgcgtgatgcccgtcaagcatattaagttcagttttttctgattgtgttcgtatgtgcgttcagactggcgaagccgctattaccg
tcggggaatattggagctatgacatacaacattgacaaattacattacgaanaacagacggaacgatgtctttgttggatccccgttacacaaca
aattttataccgcttcaaatcagggggcgcatgtatgacgcacgttaatgaccaatactctcatgaagatcaaccgacattggcgcgtcactt
cggttgataactgacacccaagccggccaacggcgtcgactcatgggtcgaacatggttcaaacctgtggcttacgcctttattcactcggc
aggaaggataccgctgcgtctttatggtgactattatggcattccacaatatacattccttcgtgtaaaagcaaaatcgtaccgctctcctcgc
ggcaggggattatgcttacggaacgcaacatgattatctgtgactaccgacatcatcgggtggacaaggggaaggggtcactgaaaacacagg
atccggcgtggccgcatgacccagatggggcgggagggaagcaaatgtagtactgttggaacaacaacgctggaaagtgtctatga

SEQ ID NO: 88

Met Phe Leu Leu Ala Phe Leu Leu Thr Ala Ser Leu Phe Cys Pro Thr Gly Gln Pro Ala Lys Ala Ala
Ala Pro Phe Asn Gly Thr Met Met Gln Tyr Phe Glu Trp Tyr Leu Pro Asp Asp Gly Thr Leu Trp Thr
Lys Val Ala Ser Asn Glu Ala Asn Asn Leu Ser Ser Leu Gly Ile Thr Ala Leu Trp Leu Pro Pro Ala Tyr
Lys Gly Thr Ser Arg Ser Asp Val Gly Tyr Gly Val Tyr Asp Leu Tyr Asp Leu Gly Glu Phe Asn Gln
Lys Gly Thr Val Arg Thr Lys Tyr Gly Thr Lys Ala Gln Tyr Leu Gln Ala Ile Gln Ala Ala His Ala
Ala Gly Met Gln Val Tyr Ala Asp Val Val Phe Asp His Lys Gly Glu Ala Asp Gly Thr Glu Trp Val
Asp Ala Val Glu Val Asn Pro Ser Asp Arg Asn Gln Glu Ile Ser Gly Thr Tyr Gln Ile Gln Ala Trp
Thr Lys Phe Asp Phe Pro Gly Arg Gly Asn Thr Tyr Ser Ser Phe Lys Trp Arg Trp Tyr His Phe Asp

Figure 16 (cont.)

Gly Val Asp Trp Asp Glu Ser Arg Lys Leu Ser Arg Ile Tyr Lys Phe Arg Gly Ile Gly Lys Ala Trp
 Asp Trp Glu Val Asp Thr Glu Asn Gly Asn Tyr Asp Tyr Leu Met Tyr Ala Asp Leu Asp Met Asp
 His Pro Glu Val Val Thr Glu Leu Lys Asn Trp Gly Lys Trp Tyr Val Asn Thr Thr Asn Ile Asp Gly
 Phe Arg Leu Asp Ala Val Lys His Ile Lys Phe Ser Phe Phe Trp Asp Trp Leu Ser Tyr Val Arg Ser
 Gln Thr Lys Lys Pro Leu Phe Thr Val Gly Glu Tyr Trp Ser Tyr Asp Ile Asn Lys Leu His Asn Tyr
 Ile Thr Lys Thr Asp Gly Thr Met Ser Leu Phe Asp Ala Pro Leu His Asn Lys Phe Tyr Thr Ala Ser
 Lys Ser Gly Gly Ala Phe Asp Met Arg Thr Leu Met Thr Lys Ser Lys Ile Asp Pro Leu Leu Ile Ala Arg
 Arg Asp Tyr Ala Tyr Gly Thr Gln His Asp Tyr Leu Asp His Ser Asp Ile Ile Gly Trp Thr Arg Glu
 Gly Val Thr Glu Lys Pro Gly Ser Gly Leu Ala Leu Ile Thr Asp Gly Pro Gly Gly Ser Lys Trp
 Met Tyr Cys Trp Gln Thr Thr Arg Trp Lys Ser Val Leu

SEQ ID NO: 89

atgaagaagcggtgtgtatcaaaatttcccgatcggttcttaatggcaacccttcaaatgataacagcaagcagcaggcacgcggggcgcc
 agccgattgagcatcgcgattggcggattgcccgataatccgcgcctgaanaggagcagcggcctacagtgccgacggtgaatgctgcaat
 gacttttccggcgacatccgcggaattgaacaaaattggattattgcagtcgcttggagtgaaacgatttacttaatccgatccgcaat
 cgccatgaaccataaatgatgcgagcaatatacaagaattggatccgatgtcgggtcccggaagaattcaatcgttggtcaggcggtg
 cgaaccgggggatgcattcattagacgggggtgtcaaccagctatccgacgattcgattacttgaccgctaccacgctatccgacggtc
 ggtgcgtatgaatctgggaagcgggtttacgatltgatgaatgaanaaggaattgacgcgaggaagaagcgcggaaacaagtggaagagaatg
 aaacaaggggacagacggttcagcccgatgggtttcattttggttcaatattgaaacaaaagaattggccattatcaatcaatcattgtg
 gggcgctatgacagctgcgggagttaagtcggtgacgggggaaaaatgctgcacatcgatgtaattgaaacaacgatgcgctcgcggaattc
 atttccgtgtaatcggaatcgtggcggaaagctggtatccctcggcgcctccggctggcggttgatgtgcgaatgaggtgacccggcgt
 ttggcgcgagtttcgcgaagaattgcttcaaggctgacggccgcggtccgacggttaaaagaggggagcagccgctcattttggggaaa
 ttgggatgacgcacgaaattttctagcgacacgtacgattccgtgatgaactacgggtccgcggcggtgctgtgactttttgaaaaacg
 gaaatgcagaagaggcgacaagcggctgacggccataagggaagactaccgaatgaagcgtttatgctgctgatgaacttaatcgggtc
 catgacacggcgcggcggtcttctgcttgggaacggaacgattcatccgagcggcgcgagcgttgactcgaatataatgaggaactggg
 aaaaagcgctcaagctggcggtgattttgcagatgggataccggggagcggcgacgattattaccggcgatgaagcgggagtaacaggctc
 aaaaagccacagacaaccgcgcacgctatccgttggggcaaaagatcaaaaatctgtgtccattatcagaagtgggcgacatccgcacg
 accatcaatggtgttgcgccatgacataagacgggtgatgcgaagggtgatgtatcgtatttccgccaatcggcgctgaagcg
 cgtcattggccataaccgcggcaattgagacaagacggtgctgctgttcgcttccgacggcaccggtctacggatgaatg
 gcatgatgcccggggaagcgtacggctgcgtggcggaaagcttgacggttcacgattccggcctggatggagcgatgattttgggacggtgac
 gcggaaatgccggcgacgagcagcaattgcaaggcgagcgttcggatggctggtgacgttgaacgtaagcgaatgctacgagatacc
 gaatttgcagttccacgttaaaaggctgcgggttatcatgattggtcgaagagcggaaacaacttcggccacgacggttcgttgacgacgga
 cagcctattactttgctgttgcggctggcgttgatgaanaacgggaatgaatcaccgaaggctgaacgaatcgcgtgttccattaccgctgac
 gagcgacaaattgcaagctgtgacaacgcttaagcgtatgccacactggaattgttcaaaagcgcagcaagtggtgatgtcaltgtcaacatcacaal
 gtgacaagcaaaaggagcagctgaggtgttgcgaagcgtgtgttgcgaagtgaaggccgcattgacgaacatggaaaatacagagcggtt
 accaaggcagaagagggcgacgcccacgctgttccgagctgcttaccctcgcgcgcagggagcgtatcatgtatgtcgtgacgacc
 aactcttggcagggagtgatgtatatacagaagaagcaagtgacgtttgcgcagacaacagcgaacaaatagccagaacgccaagcgcagc
 agctgcggcagccttgcgggttgaatcgggacaagtgaatttatcatgacgtttgttgggaaaaagatggcggtgatgttaattgttagccatgac
 cgcacgttggatcatgtgcatacaaccactgatccggcgattcattacagactacgatgtcgaanaaggcaccgagctacgtatgtttgicaa
 gttgatgatccgcgcggcaattgttgcgttcaaacggtaagtgacgcgttgcgcagacaacagcgaacaaatagccagaacgccaagcgcagc
 ccggattacacaccgttggatgccgaattgacgattccgaacagcttgaacggcgtgaacaacagcggtcgggagatgtcgcgaacggtgc
 ggtgctggccgattggcaatttaccgtcgggtgcagggagggggaacgatccataagtgatgaaaggcgatcggatcgttggatcagaag
 ggttggcccgacatacgcgtgaggaacgaacgatgatgacgtgagctactacggctatgggacgattggcaccgacttgaagtgcggtc
 cacaatgaaggaaacaatcagatgattgtgcgaagccgattttgcgttgatcatatgcccggctgtcattgaaagggtgcgaacaaacga
 agtcaagtgacgatacaggcgcaattgcaataaaacggtgttttgacgatcaatggcgagcggctgattgatggccggatgctatcctg
 acacgtttgcgcgcggcagccatcaaaaagaattgttgatcatatgaaccaatggccgaagcgaacaaacgcatttcaacaacgacggcg

10081072.1026102

Figure 16 (cont.)

gagc gattgc gaaaaacacaaa gattac gtgct gaattttagaac gaagcaattcaaaagctctc gagagtacttctagacggcgccg gg
gcccatcgattttccacccgggtgggggtaccaggta

SEQ ID NO: 90

Met Lys Glu Ala Val Val Tyr Gln Ile Phe Pro Asp Arg Phe Phe Asn Gly Asn Pro Ser Asn Asp Asn
Ser Lys Gln Gln Ala Arg Gly Ala Gln Pro Ile Glu His Arg Asp Trp Ser Asp Leu Pro Asp Asn Pro
Arg Leu Lys Gly Thr Ser Gly Tyr Asp Gly Asp Gly Glu Trp Ser Asn Asp Phe Phe Gly Gly Asp Ile
Ala Gly Ile Glu Gln Lys Leu Asp Tyr Leu Gln Ser Leu Gly Val Asn Thr Ile Tyr Leu Asn Pro Ile
Ala Asn Ala Pro Ser Asn His Lys Tyr Asp Ala Ser Asn Tyr Lys Glu Leu Asp Pro Met Phe Gly Ser
Pro Glu Glu Phe Gln Ser Phe Val Gln Ala Leu Ala Asn Arg Gly Met His Leu Ile Leu Asp Gly Val
Phe Asn His Val Ser Asp Asp Ser Ile Tyr Phe Asp Arg Tyr His Arg Tyr Pro Thr Val Gly Ala Tyr
Glu Tyr Trp Glu Ala Val Tyr Asp Leu Met Asn Glu Lys Gly Leu Ser Glu Glu Glu Ala Arg Lys Gln
Val Glu Glu Lys Phe Lys Gln Glu Gly Gln Thr Phe Ser Pro Tyr Gly Phe His Leu Trp Phe Asn Ile
Glu Asn Lys Lys Val Asn Gly His Tyr Gln Tyr Gln Ser Trp Trp Gly Tyr Asp Ser Leu Pro Glu Phe
Lys Ser Val Thr Gly Lys Val Pro His Pro Ser Glu Leu Asn Asn Asp Ala Leu Ala Asn Tyr Ile
Phe Arg Glu Ser Asp Ser Val Ala Lys Ser Trp Ile Ala Leu Gly Ala Ser Gly Trp Arg Leu Asp Val
Ala Asn Glu Val Asp Pro Ala Phe Trp Arg Glu Phe Arg Gln Glu Leu Leu Gln Gly Ser Tyr Gly Arg
Gly Pro Thr Leu Lys Glu Gly Glu Gln Pro Leu Ile Leu Gly Glu Ile Trp Asp Asp Ala Ser Lys Tyr
Phe Leu Gly Asp Gln Tyr Asp Ser Val Met Asn Tyr Arg Phe Arg Gly Ala Val Leu Asp Phe Leu
Lys Asn Gly Asn Ala Glu Glu Ala Asp Lys Arg Leu Thr Ala Ile Arg Glu Asp Tyr Pro Ser Glu Ala
Phe Tyr Ala Leu Met Asn Leu Ile Gly Ser His Asp Thr Ala Arg Ala Val Phe Leu Leu Gly Asn Gly
Thr Asp Ser Ser Glu Arg Ala Glu Leu Asp Pro Asn Tyr Asn Glu Glu Leu Gly Lys Lys Arg Leu
Lys Leu Ala Val Ile Leu Gln Met Gly Tyr Pro Gly Ala Pro Thr Ile Tyr Tyr Gly Asp Glu Ala Gly
Val Thr Gly Ser Lys Asp Pro Asp Asn Arg Arg Thr Tyr Pro Trp Gly Lys Glu Asp Gln Asn Leu
Leu Ser His Tyr Gln Lys Val Gly His Ile Arg Gln His His Gln Ser Leu Leu Ala His Gly Asp Ile
Lys Thr Val Tyr Ala Gln Gly Asp Val Tyr Val Phe Ala Arg Gln Tyr Gly Arg Glu Ala Leu Ala Ile
Ala Ile Asn Arg Gly Asn Glu Asp Lys Thr Val Ala Leu Asp Val Ala Ser Leu Leu Pro Asn Gly Thr
Val Leu Thr Asp Glu Leu His Asp Gly Gly Glu Ala Thr Val Ala Gly Gly Thr Leu Thr Val Thr Ile
Pro Ala Leu Asp Gly Arg Met Met Phe Gly Thr Val Thr Ala Glu Met Pro Ala Ala Val Ser Asn Leu
Gln Ala Ser Ala Ser Asp Gly Cys Val Thr Leu Thr Trp Glu Gly Asn Ala Ser Arg Tyr Arg Ile Tyr
Glu Ser Thr Leu Lys Gly Ala Gly Tyr Thr Met Val Gln Glu Thr Glu Thr Thr Ser Ala Thr Ile Gly
Ser Leu Thr Asn Gly Thr Ala Tyr Tyr Phe Ala Val Ala Ala Val Asn Glu Asn Glu Ser Pro
Lys Val Glu Thr Asn Arg Val Val Pro His Tyr Pro Leu Thr Ser Asp Asn Val Gln Phe Val Thr Thr
Leu Ser Asp Ala Thr Leu Asp Leu Ser Lys Pro Gln Gln Val Asp Val His Val Asn Ile Asn Val
Thr Ser Lys Gly Ala Ala Asp Gly Leu Gln Ala Val Leu Gln Val Lys Gly Pro His Asp Glu Thr Trp
Lys Glu Tyr Arg Ala Ala Tyr Gln Gly Gln Asp Gly Asp Ala Asn Val Phe Arg Ala Ala Phe Thr Pro
Leu Ala Ala Gly Thr Tyr Thr Arg Tyr Ala Leu Thr Thr Asn Leu Gly Glu Glu Trp Met Tyr Thr
Glu Glu Lys Gln Val Thr Phe Ala Ala Asp Asn Ser Asp Gln Ile Ala Pro Ala Asp Ala Ile Glu Leu
Arg Gln Pro Ala Val Glu Ser Gly Gln Val Asn Leu Ser Trp Thr Phe Val Gly Lys Lys Asp Gly Asp
Ala Tyr Leu Leu Ala Ile Glu Arg Asn Gly Asp Ile Val His Thr Thr Ser Ile Gly Asp Ser Phe Thr
Asp Tyr Asp Val Glu Asn Gly Thr Glu Tyr Thr Tyr Val Val Lys Leu Tyr Asp Arg Ala Gly Asn
Val Val Ala Ser Asn Thr Val Lys Val Thr Pro Asp Ile Val Met Val Lys Val Ile Phe Lys Val Arg
Ala Pro Asp Tyr Thr Pro Leu Asp Ala Arg Ile Thr Ile Pro Asn Ser Leu Asn Gly Trp Asn Thr Gly
Ala Trp Glu Met Ser Arg Asn Gly Ala Val Thr Pro Asp Trp Gln Phe Thr Val Glu Val Gln Glu Gly
Glu Thr Ile Thr Tyr Lys Tyr Val Lys Gly Gly Ser Trp Asp Gln Glu Gly Leu Ala Asp His Thr Arg
Glu Asp Asp Asn Asp Asp Val Ser Tyr Tyr Gly Tyr Gly Thr Ile Gly Thr Asp Leu Lys Val Thr
Val His Asn Glu Gly Asn Asn Thr Met Ile Val Gln Asp Arg Ile Leu Arg Trp Ile Asp Met Pro Val
Val Ile Glu Glu Val Gln Lys Gln Gly Ser Gln Val Thr Ile Lys Gly Asn Ala Ile Lys Asn Gly Val
Leu Thr Ile Asn Gly Glu Arg Val Pro Ile Asp Gly Arg Met Ala Phe Ser Tyr Thr Phe Ala Pro Ala
Ser His Gln Lys Glu Val Leu Ile His Ile Glu Pro Ser Ala Glu Ser Lys Thr Ala Ile Phe Asn Asn Asp

10081872-022102

Figure 16 (cont.)

Gly Gly Ala Ile Ala Lys Asn Thr Lys Asp Tyr Val Leu Asn Leu Glu Thr Lys Gln Phe Lys Lys Leu
Leu Gly Ser Thr Ser Arg Ala Ala Ala Gly Pro Ser Ile Phe His Pro Gly Gly Val Pro Gly

SEQ ID NO: 91

gtgctaaccgtttacacgcgcatcgtgaaaggatggatgttcctgctcgtgttttgcactgcctcgtgttctgcccaacaggacagcccgcca
aggctgcgcgcggttttaacggccacatgatgcagattttgaatggatctgcccggatgatggcagcttatggacaaaatgggccaatgaagc
caacaactctatccagcttggccatcaccgctcttggctgccgcccttataaaggacaacggccgacgacgtatgggtacggagttatcaga
cttgatgacctggcgaaatcaatcaaaaaaggaccgtccgcacaaaatcggaaacaaagctcaataatctcaagcattcaagccgccac
gccgctgggaatgcaagtgcacgccgatgctgtgttcgacataaaaggccgccgacggcagcggaaatgggtggacgcgcgtcgaagtcaatc
cgctccgaccgaaccaagaatactcggggccatcaaatccaagcatggacgaaattgatttccggcgccggcgaacacctaccagctt
taagtggcgcgtgtaccattttgacggcgttgattgggacgaaagccgaaattgagccgcatttacaattccgcgcacatcgcaaacgcgtgg
gattgggaagtacgacggaaaacggaaactatgactacttaattgatgcgcacgtggacatggacatccctgaagtggtacggaaactgaaaa
actggggcaaatggatgtcaacacacacgaacattgatgggttccggctgatgcgcgcaagcatatgaagtcagtttttctcctgattggttgcgt
atgtgcgtttcagacgtggcgaagcgcgtattaccgtcgggaattattggagctatgacatcaacaagttgcacaattacattacgaaacaaacg
gaacgatgtctttgttgatgccccgttacacacaaatttatacgcgtcccaaatcagggggcgcaattgatatgcgcagcttaatgaccaact
ctcatgaaagatcaaccacacatggcgcgtcacctgttgaatactatgacacccggccgaacggcgtgcagctcatgggtgcgacctgggt
tcaaacctgtgcttaccgctttatcttaactcggcagggaaggataccgctgcgtctttatgttgactattatggcattccacataataacattcct
cgctgaaagcaaaatcgaaccgtccctcaccgcgcagggatattgcttctacggaacgaacgaatgattattcttgatcaccctcgacatcggg
tgacaagggaaggcgtcactgaaaaacagatccggactggccgcactgatccacgatggccggggagggaagcaaatggatgtacgtt
ggcaaacacacgcgcggaaaagtgttctatgacttaccggcaaccggatgacacccatcaccatacaagatgatggatgggggaattcaaa
agtcaatggcgttcggttccgttgggttcctagaaaacgaccgtctctaccatcgcttggccgatcacaacccgaccgtggactggtgaatt
cgtcgttgaccgaaccagcttgggtggcatggccttga

SEQ ID NO: 92

Val Leu Thr Phe His Arg Ile Ile Arg Lys Gly Trp Met Phe Leu Leu Ala Phe Leu Thr Thr Ala Ser
Leu Phe Cys Pro Thr Gly Gln Pro Ala Lys Ala Ala Ala Pro Phe Asn Gly Trp Met Met Gln Tyr Phe
Glu Trp Tyr Leu Pro Asp Asp Gly Thr Leu Trp Thr Lys Val Ala Asn Glu Ala Asn Asn Leu Ser Ser
Leu Gly Ile Thr Ala Leu Trp Leu Pro Pro Ala Tyr Lys Gly Thr Ser Arg Ser Asp Val Gly Tyr Gly
Val Tyr Asp Leu Tyr Asp Leu Gly Glu Phe Asn Gln Lys Gly Thr Val Arg Thr Lys Tyr Gly Thr
Lys Ala Gln Tyr Leu Gln Ala Ile Gln Ala Ala His Ala Ala Gly Met Gln Val Ala Asp Val Val
Phe Asp His Lys Gly Gly Ala Asp Gly Thr Glu Trp Val Asp Ala Val Glu Val Asn Pro Ser Asp Arg
Asn Gln Glu Ile Ser Gly Thr Tyr Gln Ile Gln Ala Trp Thr Lys Phe Asp Phe Pro Gly Arg Gly Asn
Thr Tyr Ser Ser Phe Lys Trp Arg Trp Tyr His Phe Asp Gly Val Asp Trp Asp Glu Ser Arg Lys Leu
Ser Arg Ile Tyr Lys Phe Arg Gly Ile Gly Lys Ala Trp Asp Trp Thr Glu Asn Gly Asn
Tyr Asp Tyr Leu Met Tyr Ala Asp Leu Asp Met Asp His Pro Glu Val Val Thr Glu Leu Lys Asn
Trp Gly Lys Trp Tyr Val Asn Thr Thr Asn Ile Asp Gly Phe Arg Leu Asp Ala Val Lys His Ile Lys
Phe Ser Phe Phe Pro Asp Trp Leu Ser Tyr Val Arg Ser Gln Gly Lys Pro Leu Phe Thr Val Gly
Glu Tyr Trp Ser Tyr Asp Ile Asn Lys Leu His Asn Tyr Ile Thr Lys Thr Asn Gly Thr Met Ser Leu
Phe Asp Ala Pro Leu His Asn Lys Phe Tyr Thr Ala Ser Lys Ser Gly Gly Ala Phe Asp Met Arg Thr
Leu Met Thr Asn Thr Leu Met Lys Asp Gln Pro Thr Leu Ala Val Thr Phe Val Asp Asn His Asp
Thr Glu Pro Gly Gln Ala Leu Gln Ser Trp Val Asp Pro Trp Phe Lys Pro Leu Ala Tyr Ala Phe Ile
Leu Thr Arg Gln Glu Gly Tyr Pro Cys Val Phe Tyr Gly Asp Tyr Tyr Gly Ile Pro Gln Thr Asn Ile
Pro Ser Leu Lys Ser Lys Ile Asp Pro Leu Leu Ile Ala Arg Arg Asp Tyr Ala Tyr Gly Thr Gln His
Asp Tyr Leu Asp His Ser Asp Ile Ile Gly Trp Thr Arg Glu Gly Val Thr Glu Lys Pro Gly Ser Gly
Leu Ala Leu Ile Thr Asp Gly Pro Gly Gly Ser Lys Trp Met Tyr Val Gly Lys Gln His Ala Gly
Lys Val Phe Tyr Asp Leu Thr Gly Asn Arg Ser Asp Thr Val Thr Ile Asn Ser Asp Gly Trp Gly Glu
Phe Lys Val Asn Gly Gly Ser Val Ser Val Trp Val Pro Arg Lys Thr Thr Val Ser Thr Ile Ala Trp
Pro Ile Thr Thr Arg Pro Trp Thr Gly Glu Phe Val Arg Trp Thr Glu Pro Arg Leu Val Ala Trp Pro

Figure 16 (cont.)

SEQ ID NO: 93

atgaaatcggttgcaattacgctatcctttttatgcaaacgattcatcagtgaaagggagggagggaaaaatggggaagaatatgagaaga
agattcacgatttttcaatcttctattgttcgttcagctgttttcaattagtgcaaacgctagcgccaatggaacgggtgaacagtagtccctgtgttaa
tggaacgaagtcacgtttctatatggaaggaacggaacgagcagctgtgttactgtgcagcgctctttaatgattgagcaagaagatgggtgaca
agaagaattgacatacaaaaaggcgacaataacgtctgtctgtcacgcgaacactcaagatgggacatactacgtataaagtgtgtgagatggtc
aatggctggcggatccgcttaacccgaatcaagtagacgacgggttacggcgccgtataatgtgtcgtgtgttcgggacacccgggtgcaacaag
aacggacagtagcagctgtgtgtgaactacaagacgaattaggctatcagagcgaatgggacccgaaagcgacagctacagtgatgaaaaagg
aagggaacgggttatatacgtttacaggatcacctccagccggaacgtacgagtataaaattgcgataatggcagctgggacgaaaaactgtgt
gtcgccggcggcgatggcggaataattaaagctgctataaatagaacaacaacgggtacattttataacacagacgaacgatgcgattgcgg
attcagctgtgtacccaattcttaaaagaaaagcagccgcggctcgttggaacgattttaccagctattgtttatgaacaacagcgtggaacgggt
ggacgccgaaacatacaacggcggtgtgttcagatgatgattttgatccattatatacgtttaaaggcgcgtgtgccaaaaaggacatatgaatataa
agtagttctgggaatgattggacatatgaaattatccacaagataatgccaaatgctgtgaagaacgacaattaccttttctttaaagc
gaaaacgaaagtatggtataccgattacaatccaaaggcgttcggatgtgtatcgccaaaaagaccgttgaaagcataatcgtggatctgttaa
tcgccaacctgttgctggcgtgaaagctgggacagaagtgaccctcgtttatcagcgaaaaaagggtgattgcaaaaaaggatgatatagttaa
aaaatcacgacaacccggcacagcgaaactatactcgaatgaaaaaaggcgggtgtcttggcggaagaagaatagggaagcgacattcacaccgg
atgtgaaaggatatacgggtataaaattattgcggtagtctggaacgaaagcagaatacgggggaagatacacaaagaaaggcagctggggga
aaagcagtagataaaaatgcagagctgttcctaatacgggtgtacgacctcatccaaaacaccggattggatgaaagaagcaggtgtatataca
aatttccctgacccaag

SEQ ID NO: 94

Met Lys Ser Phe Ala Phe Met Pro Ile Leu Phe Tyr Ala Asn Asp Phe Ile Ser Glu Arg Glu Gly Gly
Gly Lys Met Gly Lys Asn Met Arg Arg Arg Phe Thr Tyr Phe Ser Ile Phe Leu Leu Phe Val Gln Leu
Phe Ser Phe Ser Ala Thr Ala Ser Ala Asn Gly Thr Val Asn Ser Ser Pro Val Val Asn Gly Asn Glu
Val Thr Phe Leu Tyr Gly Gly Thr Gly Asn Glu Gln Ser Val Leu Leu Ala Gly Ser Phe Asn Asp Trp
Gln Lys Asp Gly Asp Lys Lys Ile Ala Leu Thr Lys Gly Asp Asn Asn Val Trp Ser Val Thr Gln Thr
Leu Gln Asp Gly Thr Tyr Thr Lys Phe Val Val Asp Gly Gln Thr Val Ala Ser Pro Leu Asn Pro
Asn Gln Val Asp Asp Gly Tyr Gly Gly Arg Asn Ser Val Val Val Val Gly Thr Pro Val Gln Gln Glu
Arg Thr Val Thr Leu Val Gly Asn Leu Gln Asp Glu Leu Gly His Thr Ser Glu Trp Asp Pro Lys Ala
Thr Ala Thr Val Met Lys Lys Glu Gly Asn Gly Leu Thr Phe Thr Gly Thr Leu Pro Ala Gly Thr
Tyr Glu Tyr Lys Ile Ala Ile Asn Gly Ser Trp Asp Glu Asn Tyr Gly Val Gly Gly Arg Asp Gly Gly
Asn Ile Lys Leu Leu Asn Glu Gln Thr Thr Val Thr Tyr Asn Asp Arg Thr His Ala Ile
Ala Asp Ser Thr Trp Tyr Ala Pro Ile Leu Lys Glu Lys Gln Pro Arg Leu Val Gly Thr Ile Leu Pro
Ala Ile Gly Tyr Glu Thr Asp Val Asn Gly Trp Thr Pro Gln Thr Ser Thr Ala Leu Leu Ser Asp Asp
Asp Phe Asp Ser Ile Tyr Thr Phe Lys Ala Arg Val Pro Lys Gly Thr Tyr Glu Tyr Lys Val Leu
Gly Asn Asp Trp Thr Tyr Glu Asn Tyr Pro Gln Asp Asn Ala Lys Leu Asn Val Leu Glu Glu Thr
Thr Ile Thr Phe Phe Phe Asn Ala Lys Thr Lys Val Val Tyr Thr Asp Tyr Asn Pro Ser Gly Ser Asp
Gly Ile Val Gln Lys Asp Arg Leu Lys His Asn Thr Trp Asp Ser Leu Tyr Arg Gln Pro Phe Gly Ala
Val Lys Ala Gly Thr Glu Val Thr Leu Arg Leu Ser Ala Lys Lys Gly Asp Leu Thr Lys Ala Asp Val
Tyr Val Lys Asn Thr Thr Thr Gly Thr Ala Lys Leu Tyr Ser Met Lys Lys Ala Gly Val Leu Glu Gly
Glu Glu Tyr Trp Glu Ala Thr Phe Thr Pro Asp Val Lys Gly Val Tyr Gly Tyr Lys Phe Ile Ala Val
Asp Ala Gly Thr Lys Ala Glu Tyr Gly Glu Asp Thr Gln Glu Gly Gln Trp Gly Lys Ala Val Asp Lys
Asn Ala Glu Leu Phe Gln Leu Thr Val Tyr Asp Pro Ser Tyr Gln Thr Pro Asp Trp Met Lys Glu Ala
Val Val Tyr Gln Ile Phe Pro Asp Pro Lys

SEQ ID NO: 95

atgtatacacattatccggttcatattttgatactgatgtgatgggtgtaggagacttttagtgagttgctgaaaaaggtagattatcaaaatctctt
gagtagatcagactctggttttaccatttaataaagaataactttatcatgatatgatgttgaaattactatgatgtaaccagattatggaacact
acaagactctgataatgatgaataagcttaaatgaaattggaataaaggtagtaatggaicctgtgttgaattacatcgtcggaatacacatccatggtt
tcttgatgcagttgaaatactactaattctccatttggaaactatcattatgagcttgatgaagcccaaaaataagaatcattggcattataaaggtt
aattcaaaaggacaaactgtgtgttattggattgttgattcatcaatgccggaccttaattacgacaacccaaaatgtaattggaatgaaaggtaaa

Figure 16 (cont.)

aaataatgatttttggcgagatagggagtagatggattagattagatgcagcaaaacattattatgatttgactggagcgatggaattgaacag
tcagcaagcggttgcaaaagagatagaagactatataaaagataaactaggggaaaatgcaatagtgtgagtgaggtttacgatggagatca
atgttcttttaaaattgtcccaatcctgtgtttaaattttgattttatgtacaaatttgagagaaaatttgaaggggagagataacttaatttcagacgttatt
agttgggttgatccctgtgtataaattaaattgttttcaatttccattttatgtatgcatgactgacagatattatttcgagctgtgatatgataaatac
agggagatgtaattatctcccaaaaacaaatttgcagtagtaattgtcttactactcattacacggcatgcacaaacttacttattgtgtatgaaatga
gacttggggagtggaagtgctgactgacgaacatcgggatatacctgtgcgtgagccaaatgcaatggtataaggaatcaaaaagggaacggcgcaaa
cttatttgcaaaaagggtttacgaaggatatactgaaggaggtcctaataatgagatggagcaatatacagatgacagatgagtgagatctgtgag
aagaacaagaattggtatcttattttaactttttaaagaatttacaacttaccatgcaaaaagattatccgccactgtcttgggaagctacgatgag
gagagattggaaaacattgtattgtttgaaaagtcgtataacttccaggatgtcttgtataaataaacttgacacacagcttccaaatcacacagaa
gttccagaagggtataaagtggtgtgtgtgacttcttttgaagggtgacaactatgaatttggagcaaaaatgaatgaattgatttaccagaatacaggtg
gacgataatacgaaggcaatttatattttgataagtaa

SEQ ID NO: 96

Met Tyr Thr Leu Phe Ile Arg Ser Tyr Phe Asp Thr Asp Gly Asp Gly Val Gly Asp Phe Ser Gly Val
Ala Glu Lys Val Asp Tyr Leu Lys Ser Leu Gly Val Asp Thr Val Phe Leu Pro Phe Asn Lys Ser
Lys Ser Tyr His Gly Tyr Asp Val Glu Asp Tyr Tyr Asp Val Glu Pro Asp Tyr Gly Thr Leu Gln Asp
Asp Asp Asn Met Ile Lys Val Leu Asn Glu Asn Gly Ile Lys Val Val Met Asp Leu Val Val Asn His
Thr Ser Asp Thr His Pro Trp Phe Leu Asp Ala Val Glu Asn Thr Thr Asn Ser Pro Tyr Trp Asn Tyr
Tyr Ile Met Ser Leu Asp Glu Pro Gln Asn Lys Asn His Trp His Tyr Lys Val Asn Ser Lys Gly Gln
Thr Val Trp Tyr Phe Gly Leu Phe Asp Ser Ser Met Pro Asp Leu Asn Tyr Asp Asn Pro Lys Val Met
Asp Glu Val Lys Lys Ile Ile Asp Phe Trp Ala Asp Met Gly Val Asp Gly Phe Arg Leu Asp Ala Ala
Lys His Tyr Tyr Gly Phe Asp Trp Ser Asp Gly Ile Glu Gln Ser Ala Ser Val Ala Lys Glu Ile Glu
Asp Tyr Ile Lys Asp Lys Leu Gly Glu Asn Ala Ile Val Val Ser Glu Val Tyr Asp Gly Asp Ser Asn
Val Leu Leu Lys Phe Ala Pro Met Pro Val Phe Asn Phe Ser Phe Met Tyr Asn Leu Arg Gly Asn
Phe Glu Gly Arg Asp Asn Leu Ile Ser Asp Ser Ile Ser Trp Val Asp Ser Ser Leu Tyr Asn Leu Asn
Val Phe His Phe Pro Phe Ile Lys Ser His Asp Leu Asp Arg Phe Ile Ser Glu Leu Val Asp Ser Lys
Tyr Gln Gly Asp Val Ile Ser Ala Thr Lys Gln Tyr Leu Leu Val Asn Ala Leu Leu Leu Ser Leu Thr
Gly Met Pro Thr Ile Tyr Tyr Gly Asp Glu Ile Gly Leu Arg Gly Trp Lys Trp His Ser Glu Pro Trp
Asp Ile Pro Val Arg Glu Pro Met Gln Trp Tyr Lys Asp Gln Lys Gly Asn Gly Gln Thr Trp Thr
Lys Glu Phe Tyr Glu Gly Ile Thr Glu Gly Ser Ala Asn Glu Asp Gly Ala Ile Tyr Asp Asp Pro Asp
Asp Gly Val Ser Val Glu Gln Gln Glu Asn Gly Tyr Ser Ile Leu Asn Phe Phe Lys Glu Phe Ile Asn
Leu Arg Lys Asp Tyr Pro Ala Leu Ala Phe Gly Ser Thr Ile Glu Arg Asp Tyr Lys Asn Leu Tyr
Val Leu Lys Lys Ser Tyr Asn Phe Gln Asp Val Leu Val Leu Ile Asn Leu Asp Pro Thr Tyr Ser Asn
Thr Tyr Glu Val Pro Gly Tyr Lys Trp Val Trp Tyr Ala Phe Phe Asp Gly Asp Asn Tyr Gly Phe
Gly Ala Lys Asp Glu Met Ile Leu Gln Asn Thr Ser Trp Thr Ile Asn Pro Arg Gln Ile Tyr Ile Phe Val
Lys

SEQ ID NO: 97

atcgagagaagatgctgcattcaagattactttttgactttagcactttttatttctctctcgggtgtatttcagaaggttaaaagcgcaaggaccg
ctactaaattcaaaagcaaaagctctgttaaagtaaaagttaatacgcctttattgagaagctactactaactatcggtgaggtgttcaaaaagaatc
ttattatgtacttctgaagtgattatttactgttaaggatgtaaatgatacgaattgttacttaaggaacaacgacacaacaataattttttgaa
attgaacttctcttggacttatacatttgaggttaaaagatatgagggaagatttatatttticaggggaaaaggttaacagatcagatcagatgag
aaaaataatttgttaattgtcgaacttttttgttaatggaatagttgagacaataattgaagtgacgataattttataaaaaattatgatatcatcgg
caacgttgatcttcaaaaagatacagcacaagaagattatgaagaggtacacctgaacactacaggtacttccactttaataaagaattatata
ccgggtatgtgactgtcaaaatttgaagttgactttaaatacaaggatgcaggtatgttaccagaaaaagttcactgtgaaaatgaatttgcataga
agtgcttccagcaaaagacaaaagttaaatcttaattagctctttgatatacagaggttaagaaacgaaattagtagtttatttccgcaaaatgaggt
gccctttgttgatcctgtacaacaaattgaattggagagataaataaattgaagggaactttcaatgaattgggacatctacagatccaaatgcgaat
ttatgtgtataaagaattgaggaacaaagagataatttggatgattgttggaaaaaacgcgcaaaaaggtatacaaatgaaaattttacaaag
caagaattcgataaaattatgtgaatcgctatttaattgttaccacggttaagagagtgattgtgttcaaaaaagaaaaattataaacttata
gatttgaaggtgtgacagataaagtgctacttataactgtgatcgaatgaagccttaagttgattggaattataccaattcaagttgattctttgaag

Figure 16 (cont.)

ttttgaaaaaaggataaataagcaatgaatacgaataattctcaactaacacaaaattcttttcacagaattcacaggcaggcaatttgggac
 ttgagaaaattgcgattagagtagtgctaattggatttgaagtaagaataatgagatticaagagatgataatacataacatcattgaattctctct
 tacatcgtctactagtatacacattatccctgtcattatatttgatcagtggtagtggtgtagggagacttagtggagttgctgaaaaaggtagattc
 taaactctctggagtagatacagctgggttttaccatttaaataaagtaaaacttcatatggatagtggtgaagattactatgatgtgaacacagat
 tatgggaacactacaaagacttgataatgataaaagttcaaatgaaaaaggaaagtagtaattggaattctgtgttgaatcatatcgtcggaac
 acatccatgtttcttgatgcagttgaaaaatactactaatctccatattggaacattatcatatgagctggatgagcctcaaaataagaatcatctg
 cattataaaggtaattcaaaagcacaactgtgtgtgtatttggattgtttgattcatcaatgccgaccttaattacgacacacctaaaagttagat
 gaagtgaaaaaaataatgatttttgggcaatagatgggagtagatgggattagatagatgacgaaaaactattataggattgacggagcagtg
 gaattgaacactcagcaagcgttgcacaaagatagaagactatataaaagataaactaggggaaaatgcataattgttggatgaggtttacga
 ttggatgtccaaattgtcttttaaaattgtctcaatgcctgttttaatttagttttatgtacaatttgagaggaaaatttgaagggaagatacctaatt
 tcagactctattagtgttggttattctcgtgtgataattaaatgttttcatctttccattattgatagctatgcttgacagattatttctgagctgtgag
 atagtaaatatcaggagatgtaattctgcacacaaaacaatttgcctagttaattcttactctctataaacaggcagtgccacatttactatgg
 ttagtaaataggactaggggatgggaagtggcatcagaacctggagatatacctgtgcgtgagccaatgcaatggttataaggatcaaaaaagg
 gaacggctcaacttattggacaaaagattttacgaaggattactgaagggaagtctaatgaagtaggacaaatatacatgcatgccacgatgaatg
 gagtactgtgaagaacagaanaattggatattctattttaaactttttaagaatattatcaacttaccgaagaagattctggcactgttttggaaatg
 actacagtgagagagattggaaaactctgtatttttgaaaaagctgataaacttccaggagctgtctgtatataaactctgtatccaagctattcaa
 atacatacgaagtccagaagggtataaaattgtgtgtgtatgcattttttgatggtgacaaactagaatttggagcaaaagatgaaattgattacag
 aatacgaattggacgataaattcaggacaaatttataatttgaataagtaa

SEQ ID NO: 98

Met Arg Lys Lys Met Ser His Ser Arg Phe Thr Phe Leu Leu Ile Leu Ala Leu Phe Ile Phe Phe Ser
 Gly Cys Ile Ser Glu Val Lys Ser Glu Ser Gln Leu Leu Asn Ser Lys Gln Lys Val Leu Val Lys Val
 Asn Val Asn Thr Pro Phe Ile Glu Asn Ala Thr Thr Asn Thr Trp Ser Val Ser Lys Glu Ser Phe Ile
 Asp Tyr Leu Ser Lys Val Ile Ile Thr Val Lys Asp Val Asn Asp Gln Ile Val Phe Thr Lys Glu Thr
 Thr Asn Lys Thr Asn Ile Tyr Phe Glu Ile Glu Leu Leu Pro Gly Thr Tyr Thr Phe Glu Val Lys Gly
 Tyr Glu Glu Asp Leu Val Ile Phe Ser Gly Glu Lys Val Asn Gln Ile Ile Asp Glu Lys Asn Asn Ile
 Val Asn Val Glu Thr Phe Phe Val Asn Gly Ile Val Arg Thr Ile Ile Glu Val Asp Asp Ile Ile Tyr Lys
 Asn Tyr Asp Ile Thr Ser Ala Thr Leu Ile Phe Lys Lys Asp Thr Ala Gln Glu Asp Tyr Glu Glu Val
 Pro Val Thr Leu Thr Gly Thr Ser Thr Leu Ile Asn Lys Glu Leu Tyr Pro Gly Met Trp Thr Val Lys
 Phe Glu Val Asp Leu Lys Ser Lys Asp Ala Ser Met Leu Pro Glu Lys Val His Leu Glu Asn Glu Phe
 Ser Ile Glu Val Leu Pro Ala Lys Thr Lys Ser Leu Thr Phe Asn Val Val Phe Asp Thr Glu Val Asp
 Pro Lys Leu Leu Val Val Phe Pro Gln Ile Glu Leu Ser Pro Phe Val Val Asp Pro Thr Asn Asn Ser
 Gly Glu Ile Asn Glu Leu Glu Gly Asn Leu Ser Met Asn Trp Asp Tyr Ser Asp Pro Asn Ala Glu Phe
 Tyr Val Tyr Lys Glu Leu Glu Glu Gln Gly Glu Tyr Leu Tyr Glu Phe Val Gly Lys Thr Arg Glu Lys
 Ser Tyr Thr Ile Glu Asn Phe Thr Lys Gln Glu Phe Asp Lys Phe Ser Gly Ile Ala Ile Asn Val Tyr
 Ala Asn Gly Lys Glu Ser Gly Leu Val Val Leu Lys Lys Glu Asn Ile Lys Leu Ile Asp Leu Glu Ser
 Val Asp Ser Ile Ser Ala Thr Tyr Asn Val Asp Thr Asn Glu Lys Leu Asp Tyr Asn Tyr Thr Asn
 Ser Ser Val Thr Phe Glu Val Leu Lys Lys Gly Ile Asn Ser Asn Glu Tyr Glu Ile Ile Ser Gln Leu Thr
 Gln Asn Ser Phe Ser Thr Glu Phe Thr Gly Arg Gln Phe Trp Asp Leu Glu Lys Ile Ala Ile Arg Val
 Val Ala Asn Gly Phe Glu Ser Lys Ile Asn Glu Ile Ser Arg Asp Asp Ile Thr Thr Thr Ser Leu Asn Leu
 Pro Leu Thr Ser Ser Thr Met Tyr Thr Leu Phe Ile Arg Ser Tyr Phe Asp Thr Asp Gly Asp Gly Val
 Gly Asp Phe Ser Gly Val Ala Glu Lys Val Asp Tyr Leu Lys Ser Leu Gly Val Asp Thr Val Trp Phe
 Leu Pro Phe Asn Lys Ser Lys Ser Tyr His Gly Tyr Asp Val Glu Asp Tyr Tyr Asp Val Glu Pro Asp
 Tyr Gly Thr Leu Gln Asp Leu Asp Asn Met Ile Lys Val Leu Asn Glu Asn Gly Ile Lys Val Val Met
 Asp Leu Val Val Asn His Thr Ser Asp Thr His Pro Thr Phe Leu Asn Ala Val Glu Asn Thr Thr Asn
 Ser Pro Tyr Trp Asn Tyr Tyr Ile Met Ser Leu Asp Glu Pro Gln Asn Lys Asn His Trp His Tyr Lys
 Val Asn Ser Lys Gly Gln Thr Val Trp Tyr Phe Gly Leu Phe Asp Ser Ser Met Pro Asp Leu Asn Tyr
 Asp Asn Pro Lys Val Met Asp Glu Val Lys Lys Ile Ile Asp Thr Asp Ala Met Gly Val Asp Gly
 Phe Arg Leu Asp Ala Ala Lys His Tyr Tyr Gly Phe Asp Trp Ser Asp Gly Ile Glu Gln Ser Ala Ser
 Val Ala Lys Glu Ile Glu Asp Tyr Ile Lys Asp Lys Leu Gly Glu Asn Ala Ile Val Val Ser Glu Val

Figure 16 (cont.)

Tyr Asp Gly Asp Ser Asn Val Leu Leu Lys Phe Ala Pro Met Pro Val Phe Asn Phe Ser Phe Met Tyr
 Asn Leu Arg Gly Asn Phe Glu Gly Arg Asp Asn Leu Ile Ser Asp Ser Ile Ser Trp Val Asp Ser Ser
 Leu Tyr Asn Leu Asn Val Phe His Phe Pro Phe Ile Asp Ser His Asp Leu Asp Arg Phe Ile Ser Glu
 Leu Val Asp Ser Lys Tyr Gly Asp Val Ile Ser Ala Thr Lys Gly Tyr Leu Leu Val Asn Ala Leu
 Leu Leu Ser Leu Thr Gly Met Pro Thr Ile Tyr Tyr Gly Asp Glu Ile Gly Leu Arg Gly Trp Lys Trp
 His Ser Glu Pro Trp Asp Ile Pro Val Arg Glu Pro Met Gln Trp Tyr Lys Asp Gln Lys Gly Asn Gly
 Gln Thr Tyr Trp Thr Lys Glu Phe Tyr Glu Gly Ile Thr Glu Ser Leu Asn Glu Asp Gly Ala Ile
 Tyr Asp Asp Pro Asp Asp Gly Val Ser Val Glu Glu Gln Glu Asn Gly Tyr Ser Ile Leu Asn Phe Phe
 Lys Glu Phe Ile Asn Leu Arg Lys Asp Tyr Pro Ala Leu Ala Phe Gly Ser Thr Thr Ile Glu Arg Asp
 Trp Lys Asn Leu Tyr Val Leu Lys Lys Ser Tyr Asn Phe Gln Asp Val Leu Val Leu Ile Asn Leu Asp
 Pro Thr Tyr Ser Asn Thr Tyr Glu Val Pro Glu Gly Tyr Lys Trp Val Trp Tyr Ala Phe Phe Asp Gly
 Asp Asn Tyr Glu Phe Gly Ala Lys Asp Glu Met Ile Leu Gln Asn Thr Ser Trp Thr Ile Asn Pro Arg
 Gln Ile Tyr Ile Phe Val Lys

SEQ ID NO: 99

atgtacacactcttcacgcctctttttacgatacaacaacacgacgggtgagtgactacaacgggtgtgcccaaaaagttagactatctcaaaacg
 ctggagtgatcacagttgtgtcttgcggttcaacaacgcaaaatcgtaccacgggttagcagtggtgaagactactacgatgtagaacctgactatg
 gaacatcgcacacacttgaaaatatgataagacacactcaatcagaacggaattcgtgtgtgttgatggactgtgtgtgaaccacacttcgcatcac
 actcgtgtttctgtagtgcgttgtagacacacaacgaattcgaattgtgagctactacataatgacacttgaaaatagagacgggttgaaatcat
 ggcatgtgaagataaactcaaaagggcaaaaagttaactactcggactgtttgactcatcaatgccgaatttgacacatcccaaatgcat
 gaacgaataatcaagagaataatcgaattctgataacagttgtgtggatgtgttcagactgtatgcacccaagactacaaaaggctgggattggg
 acgacggcatttcagggttcacgagcaatcgcgagggaataagaagtacatcaggagcaagtaggaacgatgcgatagtgtgtgggaa
 gtgtcatgatgaaatccatcggttttcacaatttgcacccgatgcggcggttcaacttcacattcatgtatggaataacaggccaacctgagggg
 aagaataactcgtctggagaaacaacttcatgggtaattggagcagtgatttatctcaacgtaaaacttcccggtcatagacatacagatttga
 acagatgatatcgtacatctatcgacaaaagtatatgtgaaacacacaagttggtacgaagcagtagtaatttacaacatgcgctctgtcttcta
 aacggtagctgttatttatttgggaatgaalagcgttagagaggttgaataaggcagacccgtgtggaatttcccggtgagagagcgga
 tgcagtgtgacgaagtcgaagtcggagctgggcagacatgtgtgacaaagcctgtctacacgaacgaaggaatcacatttggaaatgcaaac
 gtcatgtgttcgtagtacgatgccaaatgatgggttcagtagaagcagatgaattgttacacgataataactctttaaaacattcataa
 ccctgagggaagacatatcgcctctatcgaaaggttcgataacgatagaacgcgactggaagaacactgtcattatcaaacgagctacaggaa
 atcagggaagtgtgtattgataaacttagaccacactggccgaacaattacacgttaccagggtgatacaggtgtgtgtgtgtgtcttttaa
 tggagattgttgtaatttggcaataaaacgaatcacccactgagccaagataccaaactggacagtcataccaaaggcaactgtatgtgtttgtgaa
 ggactaa

SEQ ID NO: 100

Met Tyr Thr Leu Phe Ile Arg Ser Phe Tyr Asp Thr Asn Asn Asp Gly Val Gly Asp Tyr Asn Gly Val
 Ala Gln Lys Val Asp Tyr Leu Lys Thr Leu Gly Val Asp Thr Val Trp Phe Leu Pro Phe Asn Lys Ala
 Lys Ser Tyr His Gly Tyr Tyr Asp Val Glu Asp Tyr Tyr Asp Val Glu Asp Tyr Tyr Gly Thr Tyr Ala Gln
 Leu Glu Asn Met Ile Lys Thr Leu Asn Gln Asn Gly Ile Arg Val Val Met Asp Leu Val Val Asn His
 Thr Ser Asp Thr His Ser Trp Phe Leu Asp Ala Val Glu Asn Thr Thr Asn Ser Lys Tyr Trp Ser Tyr
 Tyr Ile Met Thr Leu Glu Asn Arg Asp Gly Trp Asn His Trp His Trp Lys Ile Asn Ser Lys Gly Gln
 Lys Val Tyr Tyr Phe Gly Leu Phe Asp Ser Ser Met Pro Asp Leu Asn Phe Asp Asn Pro Gln Val
 Met Asn Glu Ile Lys Arg Ile Ile Asp Phe Trp Ile Thr Val Gly Val Asp Gly Phe Arg Leu Asp Ala
 Pro Lys Thr Lys Gly Trp Asp Trp Asp Asp Gly Ile Ser Gly Ser Ala Ala Ile Ala Arg Glu Ile Glu
 Ser Tyr Ile Arg Ser Lys Leu Gly Asn Asp Ala Ile Val Val Gly Glu Val Tyr Asp Gly Asn Pro Ser
 Val Leu Ser Gln Phe Ala Pro Met Pro Ala Phe Asn Phe Thr Phe Met Tyr Gly Ile Thr Gly Asn His
 Glu Gly Lys Asp Asn Leu Leu Gly Glu Thr Ile Ser Trp Val Asn Gly Ala Ser Tyr Tyr Leu Asn Val
 Lys His Phe Pro Phe Ile Asp Asn His Asp Leu Asn Arg Trp Ile Ser Ile Leu Ile Asp Gln Lys Tyr Ser
 Gly Asn Thr Gln Val Thr Lys Gln Tyr Ile Leu Thr Asn Ala Leu Leu Leu Ser Leu Asn Gly Met
 Pro Val Ile Tyr Tyr Gly Asn Glu Ile Gly Leu Arg Gly Trp Lys Trp Gly Gln Asp Pro Trp Asp Leu
 Pro Val Arg Glu Pro Met Gln Trp Tyr Ala Ser Gln Ser Gly Ala Gly Gln Thr Trp Trp Thr Lys Pro

Figure 16 (cont.)

Val Tyr Gln Gln Lys Gly Ile Thr Phe Gly Asn Ala Asn Val Asp Gly Ala Met Tyr Asp Pro Asn
Asp Gly Val Ser Val Glu Glu Gln Met Asn Gly Tyr Thr Ile Asn Asn Phe Phe Lys Gln Phe Ile Thr
Leu Arg Lys Thr Tyr Pro Ala Leu Ser Lys Gly Ser Ile Thr Ile Glu Arg Asp Trp Lys Asn Leu Tyr
Val Ile Lys Arg Val Tyr Gly Asn Gln Glu Val Leu Val Leu Ile Asn Leu Asp Pro Thr Trp Pro Asn
Asn Tyr Trp Leu Pro Gly Tyr Arg Trp Val Trp Tyr Ala Phe Phe Asn Gly Ser Leu Phe Glu Phe
Gly Asn Lys Asn Glu Ser Pro Leu Ser Gln Asp Thr Asn Trp Thr Val Asn Pro Arg Gln Val Tyr Val
Phe Val Lys Asp

SEQ ID NO: 101

ttgcgattcttccaaagttaattccccctttccgcaaaacaccagagagtgfcgagcgaaagcgcgatcatcaagagacactgaacaattacaag
gaaagttaataatgatcaatttgaataaaacaccattagcgccctgtcgcagtgatggtattagcttgcacaaacgcaatggcggttcctag
aacccgctttgtacacctcttggaaatgggaagatgttgacacaggagtgtaaacattctcggacctaaaggcttggcgcagtgcaagt
ctctccgccaactaaatctcacaacaggatgcatgtggggccgttatcaaccgttagttatgctttgaaggacgcagcgtaacgcagcc
aatitaaataatgttgcaacgtgttaagcgttagggcgtcatatatactagtagtcagtgatgaaccacatggcagcctacgacagaatttcc
ctgatgtacctatagcagtaatacgttaactctgtacaggaatattgactataataaccgttgcaaacacgcattgtgattatgctgtctta
atgattcaaaaacaggatgtgactctgcgcacaaaaatacgggattatgaacgacgcgaatcagtggtgtgactgtgttccgtattgatg
cagcgaacacataaccagcaggtgatatacgtgcataaaggtaataaattggaatccatacatcttccaaagagtaattgtgtacccgcg
aacctgttcgacggaatgaataacaccttatcgtgtgtgtcgcgaatttcaattgtctgaaattgggtccagcctccgcaatgtaataattgctt
ggtaaaagacattggcagtcgaatgggaattaccagtgctgatgcccgaacattgtgaacgaatcatgtagagcgcataaccgaatgtgc
ctattggcagcgggttcaagtaattggttatgattagcaaatatttttcccttagctacccttaccggtatccacaaatcatgacagtaactct
ccacggtgacttttaacgcagcctccacaaagcagtggtatatacacaaggaaatgcgtgtgttgatggcgagactgggtatgcgaaccaa
atggcgcggtatgtacatggttgcctccgcaactatacagcaagcgaatggcggtatcagtaattgggtgcacaaacagtaacgaccaatgtg
ctttgtgcgcgggtgttggtttgtttgtattataaaacgtgctaattggtgacataatcaaaagtgtttgatacgggaatgctgtatggcaactgt
aacataataagagcttaactgtatgaaagcaccgccaatgtatgtgcagctacagattccaaacggcgcaagcgttattaccgtcatgtgtgggca
agctaaccttaattgtacagcggatcatcgtctgcaatcatgttgccgcaaaaattgtgatacaatgtatgtgtgataatggtcccatgtacagga
tcgcatgttaataatgactcctaaacgtattgttcagaccagcaacataattgtatcatcagaaaatttaccctacgctatattactgtggagcaca
gctcacagatagcttagcgaatgcagcttggccaggtgtcgaatgcaacaaatggcgactttaaagtgtcatgtattgtgtcgaactaacca
aaftaacgccacttttagtacaatgggtgcaaaataaacagctgatcctaactgttactgtgtgcaaggtgtttataaagacggacttggaacactt
acaaaattgtgctttgaaataaccgggtgcacaaacccaatccagtcgggtggcgaggaagctctggtactccgaggtactgtaattgactgggta
aagcacaatgagattagcgaactagcgggtttgtattacacatacaaaagcttaattgtgaagacacccgtgcggttttaaaattgataatggt
agttggactgaagcttatccacagctgattaccaagttacagatacaatcataccgacttaacttataagcgatagcaaaagcgattacagtaa
acgcacaataa

SEQ ID NO: 102

Met Arg Phe Phe Pro Lys Leu Ile Ser Pro Phe Pro Gln Asn Thr Arg Glu Trp Gln Arg Ser Ala Val
Ser Arg Asp Thr Glu Gln Leu Gln Arg Lys Val Ile Met Ile Asn Leu Lys Lys Asn Thr Ile Ser Ala
Leu Val Ala Gly Met Val Gly Phe Ala Ser Asn Ala Met Ala Val Pro Arg Thr Ala Phe Val His
Leu Phe Glu Trp Lys Trp Glu Asp Val Ala Gln Glu Cys Glu Thr Phe Leu Gly Pro Lys Gly Phe Ala
Ala Val Gln Val Ser Pro Pro Thr Lys Ser His Asn Thr Asp Ala Trp Trp Gly Arg Tyr Gln Pro Val
Ser Tyr Ala Phe Glu Gly Arg Ser Gly Asn Arg Ser Gln Phe Lys Asn Met Val Gln Arg Cys Lys Ala
Val Gly Val Asp Ile Tyr Val Asp Ala Val Ile Asn His Met Ala Ala Tyr Asp Arg Asn Phe Pro Asp
Val Pro Tyr Ser Ser Asn Phe Asn Ser Cys Thr Gly Asp Ile Asp Tyr Asn Asn Arg Trp Gln Thr
Gln His Cys Asp Leu Val Gly Leu Asn Asp Leu Lys Thr Gly Ser Asp Tyr Val Arg Gln Lys Ile Ala
Asp Tyr Met Asn Asp Ala Ile Ser Met Gly Val Ala Gly Phe Arg Ile Asp Ala Ala Lys His Ile Pro
Ala Gly Asp Ile Ala Ile Lys Gly Lys Leu Asn Gly Asn Pro Tyr Ile Phe Gln Glu Val Ile Gly Ala
Ser Gly Glu Pro Val Arg Pro Thr Glu Tyr Thr Phe Ile Gly Gly Val Thr Glu Phe Gln Phe Ala Arg
Lys Leu Gly Pro Ala Phe Arg Asn Ser Asn Ile Ala Trp Leu Lys Asp Ile Gly Ser Gln Met Glu Leu
Ser Ser Ala Asp Ala Val Thr Phe Val Thr Asn His Asp Glu Arg His His Asn Pro Asn Gly Pro Ile
Trp Lys Gly Val Gln Gly Asn Gly Tyr Ala Leu Ala Asn Ile Phe Thr Leu Ala Tyr Pro Tyr Gly Tyr
Pro Lys Ile Met Ser Gly Tyr Phe His Gly Asp Phe Asn Ala Pro Pro Ser Ser Gly Ile His Thr

Figure 16 (cont.)

Gly Asn Ala Cys Gly Phe Asp Gly Gly Asp Trp Val Cys Glu His Lys Trp Arg Gly Ile Ala Asn Met
Val Ala Phe Arg Asn Tyr Thr Ala Ser Glu Trp Arg Ile Ser Asn Trp Trp Gln Asn Ser Asn Asp Gln
Ile Ala Phe Gly Arg Gly Gly Leu Gly Phe Val Val Ile Asn Lys Arg Ala Asn Gly Ser Ile Asn Gln
Ser Phe Asp Thr Gly Met Pro Asp Gly Gln Tyr Cys Asn Ile Ile Glu Ala Asn Phe Asp Gly Ser Thr
Gly Gln Cys Ser Ala Ala Thr Asp Ser Asn Gly Gln Ala Val Ile Thr Val Ser Gly Gly Gln Ala Asn
Phe Asn Val Ala Gly Asp His Ala Ala Ala Ile His Val Gly Ala Lys Ile Gly Asp Gln Cys Ser Gly
Asp Asp Cys Pro Cys Thr Gly Ser Asp Cys Asn Asn Asp Pro Lys Pro Asp Phe Ala Val Pro Ala
Thr Ser Ile Cys Thr Ser Glu Asn Leu Pro Thr Leu Tyr Tyr Trp Gly Ala Gln Pro Thr Asp Ser Leu
Ala Asn Ala Ala Trp Pro Gly Val Ala Met Gln Thr Asn Gly Asp Phe Lys Cys His Asp Leu Gly Val
Glu Leu Thr Lys Ile Asn Ala Ile Phe Ser Asp Asn Gly Ala Asn Lys Thr Ala Asp Leu Thr Val Thr
Gly Ala Gly Cys Tyr Lys Asp Gly Thr Trp Ser Thr Leu Gln Asn Cys Gly Phe Glu Ile Thr Gly Ala
Gln Thr Asn Pro Val Gly Gly Asp Glu Val Trp Tyr Phe Arg Gly Thr Thr Ala Asn Asp Trp Gly Lys Ala
Gln Leu Asp Tyr Asp Ala Thr Ser Gly Leu Tyr Tyr Thr Ile Gln Ser Phe Asn Gly Glu Glu Ala Pro
Ala Arg Phe Lys Ile Asp Asn Gly Ser Trp Thr Glu Ala Tyr Pro Thr Ala Asp Tyr Gln Val Thr Asp
Asn Asn Ser Tyr Arg Ile Asn Phe Asn Ser Asp Ser Lys Ala Ile Thr Val Asn Ala Gln

SEQ ID NO: 103

gtgtcaactgttaccgcacatcattcgaaaaggatggatgttctcgtcgtcgtttttgtctactcctcgtctgttctcccaacaggacagcccgcca
aggctgccgcacccgtttacacgcacatgatgcagttatttgaatggtaactgtccggatgatggcagcttatggacaaagtggccaatgaagc
caacaacttaccagccttgcatcaccgtcttttggctgccgcccttacaagaaggaacagccgcagcgactagggtacagagatatacga
cttgtagtaccctggcgaaattcaatacaaaagggaaccgtccgcacaaaatacgggaacaaagctcaattcttcaagccattcaagccgccac
ggcgtgtaagtgcgaattgtatcccgatgtcgtgttcaccataaaggcggcgccgacggcacggaatgggtgacggcgtcgaagtcaatc
ctgcgcacccgaaccaagaatactcgggcacctatacaatccaagcatggacgaataattttcccgggggcgaacacctactcagctt
taagtggcgtctgtacattttgacggcgttgatgtgggacgaagccgaataattgagccgacttatacaattccggcgtcggcaagcgtgg
gattgggaagtacacgggaaacatgactactaatgtatgcgcgacctgatgatgatcaccgaagtcgtacggagctgacgaagctgaaa
actggggggaatggtatgtcaacacacgaacattgatgggttccggccttgatgcgtcaagcatlaagtctcagttttttcttgattgtgtgt
atgtgcgtctcagatggcgaagccgtatttaccgtcggggaaatattggagctatgacatcaacagttggcacaattatcattacgaaacaaacg
gaacgatgtctgtttgtatgcccggttacacaacaaatttataccgcttccaaatcagggggcgcttatgatgtgcgcagttatgaaccaatct
ctcatgaagatcaaccgcacattggcgcgtcacttctgtgataatcatgacacccaacccggcccaagcgcgtcagctatgggtcgaacctgtg
tcaaacctgtgcttaccgctttatttactacgcgcaggaaggataccgctgcgtctttatgttgactattatggcattccacaataataacattcttc
gtgaaaaagcaaaatgcacgcctctatcgcgcgcagggattatgcttacggaacgcaactgattatgtatcatctcgacatcatcggtg
ggacaagggaaggggtcactgaaanaaccaggatccggcgtgcgcgcactgatcaccgatgggcccggaggaagcaaatggatgtacgttg
gcaaacacacacgtctggaagaaatgtttctatgaccttaccgcgaacccggatgacacccgtaccatcaacatgatgatgggggaattcaaa
gcaatggcgggttcgttgcgttgggttcctagaaaaaacaccgtttctaccatcgtcgtccgcatcacaccgcacccgtggaactgttgaattc
gtccgtggacccaacacagctgttggtggatgcgcttga

SEQ ID NO: 104

Val Leu Thr Phe His Arg Ile Ile Arg Lys Gly Trp Met Phe Leu Leu Ala Phe Leu Leu Thr Ala Ser
Leu Phe Cys Pro Thr Gly Gln Pro Ala Lys Ala Ala Ala Pro Phe Asn Gly Thr Met Met Gln Tyr Phe
Glu Trp Tyr Leu Pro Asp Asp Gly Thr Leu Trp Tyr Lys Val Ala Asn Glu Thr Asn Asn Leu Ser Ser
Leu Gly Ile Thr Ala Leu Trp Leu Pro Pro Ala Tyr Lys Gly Thr Ser Arg Ser Asp Val Gly Tyr Gly
Val Tyr Asp Leu Tyr Asp Leu Gly Glu Phe Asn Gln Lys Gly Thr Val Arg Thr Lys Tyr Gly Thr
Lys Ala Gln Tyr Leu Glu Ala Ile Gln Ala Ala His Ala Ala Gly Met Gln Val Tyr Ala Asp Val Val
Phe Asp His Lys Gly Gly Ala Asp Gly Thr Glu Trp Val Asp Ala Val Glu Val Asn Pro Ser Asp Arg
Asn Gln Glu Ile Ser Gly Thr Tyr Gln Ile Gln Ala Trp Thr Lys Phe Asp Phe Pro Gly Arg Gly Asn
Thr Tyr Ser Ser Phe Lys Trp Arg Trp Tyr His Phe Asp Gly Val Asp Trp Asp Glu Ser Arg Lys Leu
Ser Arg Ile Tyr Lys Phe Arg Gly Ile Gly Lys Ala Trp Asp Trp Glu Val Asp Thr Glu Asn Gly Asn
Tyr Asp Tyr Leu Met Tyr Ala Asp Leu Asp Met Asp His Pro Glu Val Thr Glu Leu Lys Asn
Trp Gly Glu Trp Tyr Val Asn Thr Thr Asn Ile Asp Gly Phe Arg Leu Asp Ala Val Lys His Ile Lys
Phe Ser Phe Phe Pro Asp Trp Leu Ser Tyr Val Arg Ser Gln Thr Gly Tyr Leu Phe Thr Val Gly

Figure 16 (cont.)

Glu Tyr Trp Ser Tyr Asp Ile Asn Lys Leu His Asn Tyr Ile Thr Lys Thr Asn Gly Thr Met Ser Leu Phe Asp Ala Pro Leu His Asn Lys Phe Tyr Thr Ala Ser Lys Ser Gly Gly Ala Phe Asp Met Arg Thr Leu Met Thr Asn Thr Leu Met Lys Asp Gln Pro Thr Leu Ala Val Thr Phe Val Asp Asn His Asp Thr Glu Pro Gly Gln Ala Leu Gln Ser Trp Val Asp Pro Trp Phe Lys Pro Leu Ala Tyr Ala Phe Ile Leu Thr Arg Gln Glu Gly Tyr Pro Cys Val Phe Tyr Gly Asp Tyr Tyr Gly Ile Pro Gln Tyr Asn Ile Pro Ser Leu Lys Ser Lys Ile Asp Pro Leu Leu Ile Ala Arg Arg Asp Tyr Ala Tyr Gly Thr Gln His Asp Tyr Leu Asp His Ser Asp Ile Ile Gly Trp Thr Arg Glu Gly Val Thr Glu Lys Pro Gly Ser Gly Leu Ala Ala Leu Ile Thr Asp Gly Pro Gly Gly Ser Lys Trp Met Tyr Val Gly Lys Gln His Ala Gly Lys Val Phe Tyr Asp Leu Thr Gly Asn Arg Ser Asp Thr Val Thr Ile Asn Ser Asp Gly Trp Gly Glu Phe Lys Val Asn Gly Gly Ser Val Ser Val Trp Val Pro Arg Lys Thr Thr Val Ser Thr Ile Ala Arg Pro Ile Thr Thr Arg Pro Trp Thr Gly Glu Phe Val Arg Trp Thr Glu Pro Arg Leu Val Ala Trp Pro

SEQ ID NO: 105

atgtccctattcaaaaaaatcttccgttggtattgtatcttacttctttgtttctttatgtctctttttccattcaacaagaaaagtcgcgtggaa
gtgtccagtggaatggaacgatgatgcaaatatttcgaatgttaccctccagacgatggaacactatggacgaagtagcaataaacgcccaact
ttacggaatcttggcattactgccctttgcttcccccctgctataaaggacaacagcagcagtgactgttgatgtggctgttatgtattatgaact
agggaagttaatacaaaaaaggacgtccgaacaaaatcaggaacaaaacacaataatccaagcaatccaagcggcgatcacagcaggaa
tgcaagtattatgcagatgtcgtctttaaaccataaagccgggtgcagatgggacagaactatgtggatgcagtagaagtaaacctctgaaccgcaat
caagaaatatcaggaacatatcaaaatccaagcgtggacgaataattttatcttggctggtggaaacacctattctagttttaaatggcgttgatata
tttcgatggacggactgggatgagagtagtaaaaactaaatcgtatttacaattccggcgcagcgggaagacatgggatgtgggaagtatagataca
gaaaatgggaattatgactatctcatgtatgcagatttggatattggatcaccagagttgtatctgaactaaaaatggggaaaagtggatgtaa
ccacaaccaatcagcaggtatccgttgcgtgcagtggaagcatataataatagctttttccagactggctcatgtatgacgaacccaacaaac
aaaaaccccttttttgcgttggcgaatttggagctatgacataaacaagctacacactatatttacaagaacgaacggctctatgtccctattcgtat
gccccgctgcataaacaattttatataatgacatgaatacaggttggctctatttgatattgcgcacattactacacaacacatgatgaagatcaccaaca
cactatcgttcacattagtagacaatcacgatactagccagcggcaatctttgcagctgtggctgcagccgtgttttaaacctgtatgcttacgcgat
tattcttgaccgcgaagaaagttatccgttgcacatctttatggagattactatggtattccaaaatacaaatctcgcgtgaaagcgaacattgac
cgtcttaattgctcgaagagattatgctacggaacacacacgactattgacaatgcagatatattcggctggacgcgggaaggagtagct
gaaaaagcaaatcgggaattgctgcactattaccgacggacctggcggaaagcaatggaatgtatgttggcaacaacacgcgtgcgaataac
gtttatgatctaaccggcaactgaagtgtatcagtgacaatcaacgctgatggtgggaagaatttaaaagtcaggaggtctgtatccatag
ggttccaaaaaacataaccactcccaaatcacaattactgttaataatgccacaacagcttttgggacaaaatgtatcgtgtcgggaattttgc
cagctggcgaac

SEQ ID NO: 106

Met Ser Leu Phe Lys Lys Ile Phe Pro Trp Ile Val Ser Leu Leu Leu Leu Phe Ser Phe Ile Ala Pro Phe Ser Ile Gln Thr Glu Lys Val Arg Ala Gly Ser Val Pro Val Asn Gly Thr Met Met Gln Tyr Phe Glu Trp Tyr Leu Pro Asp Asp Gly Thr Leu Trp Thr Lys Val Ala Asn Asn Ala Gln Ser Leu Ala Asn Leu Gly Ile Thr Ala Leu Trp Leu Pro Pro Ala Tyr Lys Gly Thr Ser Ser Ser Asp Val Gly Tyr Gly Val Tyr Asp Leu Tyr Asp Leu Gly Glu Phe Asn Gln Lys Gly Thr Val Arg Thr Lys Tyr Gly Thr Lys Thr Gln Tyr Ile Gln Ala Ile Gln Ala Ala His Thr Ala Gly Met Gln Val Tyr Ala Asp Val Val Phe Asn His Lys Ala Gly Ala Asp Gly Thr Glu Leu Val Asp Ala Val Glu Val Asn Pro Ser Asp Arg Asn Gln Glu Ile Ser Gly Thr Tyr Gln Ile Gln Ala Trp Thr Lys Phe Asp Phe Pro Gly Arg Gly Asn Thr Tyr Ser Ser Phe Lys Trp Arg Trp Tyr His Phe Asp Gly Thr Asp Trp Asp Glu Ser Arg Lys Leu Asn Arg Ile Tyr Lys Phe Arg Gly Thr Gly Lys Ala Trp Asp Trp Glu Val Asp Thr Glu Asn Gly Asn Tyr Asp Tyr Leu Met Tyr Ala Asp Leu Asp Met Asp His Pro Glu Val Val Ser Glu Leu Lys Asn Trp Gly Lys Trp Tyr Val Thr Thr Asn Ile Asp Gly Phe Arg Leu Asp Ala Val Lys His Ile Lys Tyr Ser Phe Phe Pro Asp Trp Leu Ser Tyr Val Arg Thr Gln Thr Gln Lys Pro Leu Phe Ala Val Gly Glu Phe Trp Ser Tyr Asp Ile Asn Lys Leu His Asn Tyr Ile Thr Lys Thr Asn Gly Ser Met Ser Leu Phe Asp Ala Pro Leu His Asn Asn Phe Tyr Ile Ala Ser Lys Ser Gly Gly Tyr Phe Asp Met Arg Thr Leu Leu Asn Asn Thr Leu Met Asn Gly Gln Pro Thr Leu Ser Val Thr Leu Val Asn Asn His Asp Thr

Relaxation

SEO ID NO: 107

atggacagcctcagcgcgcgcgcagaaagccctgggtgaaggatggcagctctccgctgaactgatacagggacagggaccgtgctgc
ctccggcagccactgcgcgccccgcgcaccccgccgcggaagctccgcgcctggacagtggaagaaacgatatctattctgtccac
cagcctgtcttcagatgagcgcagacgacacacacccctggctccgcgcagcatgaaataatctatgcggcgacatccagggctg
atgcacagcgtgactatcaaggacagccggcttcagggccatctgtctccgcgcctctcagagggcgaccacctcttcagagcagac
aatcacaatctgtactctggccattcagctatcagcagccccaatggggcagcatgagaagtgcagctatgcgaaagaccca
gaagggctggaatgctgtcgtctatctcccttaaccacgcgcctctggagcatcgcctctctcacaagcagcagaaggaagctgtcc
caatataggaatgtgaaggcggcgaagatccctactggctgaanaacgctctatctgcttgcgaactgcgcggcaggaacacctg
ccggtggaaagtgacctcagcagctggcccaagctctggttagacaaaggatagcggctcagcggcttgcgcgcgtggaagacgtgccctca
cctctggccgaagttgagccggcgatccagattatgcgcgcgaagctctctcctctgcgggaatcttgcgcgaagaccgcggaaagt
cgggaactacagcagggcagcagatgcagctctgattccctgactcagctgcgaagacatctgcgaagcagggagcatgc
gcaacctgcgcgcgaagctgtgagctgcagcagaatattcccgaccggcctcatctgctttctctatcaaacgacgcggcggatg
ctccaccgagggccaacgcacaaagataatgcctcaactgcgcctctgagcagcatcaaacgcgatgcacatttattatggccacc
gaggtggcatggaaagccatgcgatatcatggcgccgtgataaccggaggacatgcagctgggacaaggatcctgacttcaata
cttcaagactctaccctgcccaatgatcatgaatctccctcaggaagacaagaagctcagatgtgcagatgacaaagtctccgcta
ctggagcgacagcccggaagcagtgatctatgtggtcttaaacgcgtgatgatacggagacgggacatcctctcccgagag
cggcatcaagacggcagctgtcgaaggatgtcatccacggcgaaaccgtgacgggtacagaacgaaaatctcatcgaaatcgcgcg
caaacgcgcgcgactctgtccctcagtag

SEO ID NO: 108

Met Asp Ser Leu Asp Ala Pro Glu Gln Lys Pro Trp Val Lys Asp Gly Arg Leu Ser Ala Tyr Leu Asp
Thr Gly Thr Gly Thr Val Val Ala Pro Glu Ala Pro Pro Pro Ala Glu Glu Val Arg
Pro Val Asp Lys Lys Trp Lys Asn Asp Ile Ile Tyr Phe Val Leu Thr Asp Arg Phe Gln Asp Gly Asp Lys
Thr Asn Asn Met Asp Val Val Thr Asp Asp Met Lys Lys Tyr His Gly Gly Asp Ile Gln Gly Leu Ile
Asp Lys Leu Asp Tyr Ile Lys Glu Thr Gly Ser Thr Ala Ile Trp Leu Thr Pro Pro Met Lys Gly Gln
Thr His Phe Phe Glu Thr Asp Asn Tyr His Gly Tyr Trp Pro Ile Asp Phe Tyr Asp Thr Asp Pro His
Val Gly Thr Met Gln Lys Phe Glu Glu Leu Ile Glu Lys Ala His Lys Gly Leu Lys Ile Val Leu
Asp Ile Pro Leu Asn His Thr Ala Trp Glu His Pro Phe Tyr Lys Asp Asp Ser Lys Lys Asp Trp Phe
His His Ile Gly Asp Val Lys Asp Trp Glu Asp Pro Tyr Trp Ala Glu Asn Gly Ser Ile Phe Gly Leu
Pro Asp Leu Ala Gln Glu Asn Pro Ala Val Glu Lys Tyr Leu Ile Asp Val Ala Lys Phe Trp Val Asp
Lys Gly Ile Asp Gly Phe Arg Leu Asp Ala Val Lys Asn Val Pro Leu Asn Phe Trp Ala Lys Phe Asp
Arg Ala Ile His Asp Tyr Arg Gly Asp Phe Leu Leu Val Gly Tyr Phe Asp Gly Asn Pro Ala
Lys Val Ala Asn Tyr Gln Arg Glu Asp Met Ser Ser Leu Phe Asp Tyr Pro Leu Tyr Trp Thr Leu Lys
Asp Thr Phe Ala Lys Asp Gly Ser Met Arg Asn Leu Ala Lys Leu Asp Glu Cys Asp Arg Asn
Tyr Pro Asp Pro Gly Leu Met Ser Val Phe Leu Asp Asn His Asp Thr Pro Arg Phe Leu Thr Glu Ala
Asn Gly Asn Lys Asp Lys Leu Leu Ala Leu Ala Phe Ala Met Thr Ile Asn Arg Met Pro Thr Ile
Tyr Tyr Gly Thr Glu Val Ala Met Glu Gly Asn Cys Asp Ile Met Gly Ala Val Asp Asn Arg Arg
Asp Met Gln Trp Asp Lys Asp Pro Asp Met Phe Lys Tyr Phe Lys Thr Leu Thr Thr Ala Arg Asn
Glu His Glu Ser Leu Arg Glu Gly Lys Lys Leu Glu Met Gln Trp Gln Asp Asp Lys Val Tyr Ala Tyr Gly
Arg Gln Thr Pro Lys Asp Glu Ser Ile Val Val Leu Asn Asn Gly Tyr Asp Thr Gln Glu Arg Asp Ile

Figure 16 (cont.)

Pro Leu Arg Pro Glu Ser Gly Ile Lys Asn Gly Thr Val Leu Lys Asp Val Ile Thr Gly Glu Thr Val
Thr Val Gln Asn Gly Lys Ile His Ala Lys Cys Gly Gly Lys Gln Ala Arg Ile Tyr Val Pro Ala

SEQ ID NO: 109

atggcaagaaacgctggccatattttctgacttctagctctttagtcttcggcagttccggcaaaaggcagaacctctagagaatggtggga
gtataatgcaggctttctattggatgttctctggaggagaaictgggtgggacacaatagctcaaaagatacccgaaatggcgaagtgcaggaat
ctcagcgatattgatctaccacgcaggaagtaaggcagcgggtgggtattctatggcgacgacattcttggactccggcgagtaata
tcagaaggggcaggttgagacgcgcttcggctcaaaaggaaagcgttggaacatgataaacccgcacactctacggcataaagggtgatg
cgacacatgcatataaacaccgcgcgggtggagaccttgagtggaaccccttcgtgaacgactatacctggacagacttctcaaaagtcgcctc
cgtaataatagcgcacaactctgacttccaccnaaccgagcttactgttgatgaaggatccttgggaataccctgataatgacacg
caaaagctggggacagactgctctggcgagcagcgaaagctacgctgcctacctcagagcagcatagggttgacgcttggcggttcgact
acgtcaagggtcagcgagcatgggtgtaacgactggctcagctgggtgggagggctggggcggtggagagatcgggacacgaacgttgat
gcactctcaactggcgatcacagcagcggcgcaaggctcttgacttccgcctctactacaagatggagcgaagcccttgacaacccaacatcc
cggcattatggtgactcagatagcgcgacagcagtggtcagccgcgacccctcaaggcggtgaatttctgttgcacaccagatagatata
aatctggnaacaagatccggcttatgcattatcccttaccatgagggagacgctgttatattctaccgcgactacgaggaatggcctcaacaagg
taagcttaacaacctatctggatacacgatacccttgcgtgagggagctagctatgtttactacgacgacgacgagcttatttggagaaac
ggctatggccacaaacaggaactgataacctatatacaacctggcctaaagcaaggtggaagggtgggtctacgttccaaagttcgccggttcat
gcactcagcagatcacccggcaacctcggcgttgatgacaaagctacgtctccacggcggtgggtctatcttgaggcccccacggccacgac
ccggcgaaaggctactacggctactctgtctggagctactgcgggtgtgggtgta

SEQ ID NO: 110

Met Ala Arg Lys Thr Leu Ala Ile Phe Phe Val Leu Leu Val Leu Leu Ser Leu Ser Ala Val Pro Ala
Lys Ala Glu Thr Leu Glu Asn Gly Gly Val Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Gly Gly Gly
Ile Trp Trp Asp Thr Ile Ala Gln Lys Ile Pro Glu Trp Ala Ser Ala Gly Ile Ser Ala Ile Trp Ile Pro
Ala Ser Lys Gly Met Ser Gly Gly Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Phe Phe Asp Leu Gly Glu
Tyr Tyr Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Glu Leu Val Asn Met Ile Asn Thr
Ala His Ser Tyr Gly Ile Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly Asp Leu Glu Trp
Asn Pro Phe Val Asn Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys Tyr Thr Ala Asn
Tyr Leu Asp Phe His Pro Asn Glu Leu His Cys Cys Asp Gly Thr Phe Gly Gly Tyr Pro Asp Ile
Cys His Asp Lys Ser Trp Asp Gln Tyr Trp Leu Trp Ala Ser Ser Glu Ser Tyr Ala Ala Tyr Leu Arg
Ser Ile Gly Val Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Gly Ala Trp Val Val Asn Asp Trp
Leu Ser Trp Gly Gly Trp Ala Val Gly Gly Tyr Trp Asp Thr Asn Val Asp Ala Leu Leu Asn Trp
Ala Tyr Ser Ser Gly Ala Lys Val Phe Asp Phe Pro Leu Tyr Tyr Lys Met Asp Glu Ala Phe Asp Asn
Thr Asn Ile Pro Ala Leu Val Asp Ala Leu Arg Tyr Gly Gln Thr Val Met Ser Arg Asp Pro Phe Lys
Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro Ala Tyr Ala Phe Ile
Leu Thr Tyr Glu Gly Gln Pro Val Ile Phe Tyr Arg Asp Tyr Glu Glu Trp Leu Asn Lys Asp Lys Leu
Asn Asn Leu Ile Trp Ile His Asp His Leu Ala Gly Gly Ser Thr Asp Ile Val Tyr Tyr Asp Ser Asp
Glu Leu Ile Phe Val Arg Asn Gly Tyr Gly Thr Lys Pro Gly Leu Ile Thr Tyr Ile Asn Leu Gly Ser
Ser Lys Val Gly Arg Trp Val Tyr Val Pro Lys Phe Ala Gly Ser Cys Ile His Gly Thr Tyr Gly Asn
Leu Gly Gly Trp Ile Asp Lys Tyr Val Ser Ser Ser Gly Trp Val Tyr Leu Glu Ala Pro Ala His Asp
Pro Ala Asn Gly Tyr Gly Tyr Ser Val Trp Ser Tyr Cys Gly Val Gly

SEQ ID NO: 111

atgcccgcttcaaatcgaagtgatgcacatgaagttgaagttacctgtttatgtttgtggctgtgcttcgatagggcctctctcgaactccagt
gggtgtcgcgaagtactcgaactcgaagaggcgggttataatgcaggcctctactgggagcgtccctaccgggtggatctggtgggacac
cataagacagaaatccggaggtgtgacgacgctggaatctcggcgatattgattctccagctagcaaaaggtatgggtgtgcatatccatg
gggttagaccctcagattctttgacctcggcgagctactatcagaagggaacagttgagacgcgcttcggctcaaaagggaacatgggtgaaca
tgaataaacaccgcacactctatgcataaaggatgatacgggacatgcatataaacaccgcgcggcgggcgacgttgagtggaaccccttg
taaacactatacttggagacacttccaaagtcgctccggtaaatatcaggccaactacctgacttccaccaaacagggtgcaagctgctgc
gatggggtacatttgggtgacttccggacatccgccacgagaagagctgggatacgtactggctcggcgaagcaatgagactacgacgcgc

Figure 16 (cont.)

tatctccggagcatagggatc gatcatggcgtttc gactacgtcaaaaggttac ggagcgtgggtgttaacgactggctcagctgggtgggag
gttggccgttgagagactctgggacaccaaagttgatgcactcttaactgggcatacaacagc ggtgccaaagctcttactccgcctctac
tacaagatggagcgaagctttgacaaacacacacatccccgtttgtttacgc cctcca gaagcggaggaacagctggttcccgcatcctcaa
ggcagtaacttctgttgc caaccacgataccgataatacttggaaacagtatccggcttatgccttacccttaccatgagggaacgctgttat
tctaccgcgactacgaggaggttgcctcaacaggataagcttaacaaacctatctgatacacgagcacccttgcggaggagaatgacaaagatct
ctctactcgataacgatgacgaataattatcaggaggagggctacggagcaagcggggccataacctacataaacctcgaaacgactggc
ccgagcgtgggtgaacgtggc caaagtttgcggctacacaatcatgaatacacaggcaatcctgggtgctgggtgacaggtgggttc
agtacgacggatgggttaactgacggcaccctctacgatacagccaacggatatattcggctactcagctctggagctacgagcgtcggat
ga

SEQ ID NO: 112

Met Pro Ala Phe Lys Ser Lys Val Met His Met Lys Leu Lys Tyr Leu Ala Leu Val Leu Leu Ala Val
Ala Ser Ile Gly Leu Leu Ser Thr Pro Val Gly Ala Ala Lys Tyr Ser Glu Leu Glu Glu Gly Gly Val Ile
Met Gln Ala Phe Tyr Trp Asp Ser Val Pro Thr Gly Gly Ile Trp Trp Asp Thr Ile Arg Gln Lys Ile Pro
Glu Trp Tyr Asp Ala Gly Ile Ser Ala Ile Trp Ile Pro Pro Ala Ser Lys Gly Met Gly Gly Ala Tyr Ser
Met Gly Tyr Asp Pro Tyr Asp Phe Phe Asp Leu Gly Glu Tyr Tyr Gln Lys Gly Thr Val Glu Thr
Arg Phe Gly Ser Lys Glu Glu Leu Val Asn Met Ile Asn Thr Ala His Ser Tyr Gly Ile Lys Val Ile
Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly Asp Leu Glu Trp Asn Pro Phe Val Asn Asn Tyr Thr
Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys Tyr Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu
Val Lys Cys Cys Asp Glu Gly Thr Phe Gly Asp Phe Pro Asp Ile Ala His Glu Lys Ser Trp Asp Glu
Tyr Trp Leu Trp Ala Ser Asn Glu Ser Tyr Ala Tyr Leu Arg Ser Ile Gly Ile Asp Ala Trp Arg
Phe Asp Tyr Val Lys Gly Tyr Gly Ala Trp Val Val Asn Asn Trp Leu Ser Trp Trp Gly Gly Trp Ala
Val Gly Glu Tyr Trp Asp Thr Asn Val Asp Ala Leu Asn Trp Ala Tyr Asn Ser Gly Ala Lys Val
Phe Asp Phe Pro Leu Tyr Lys Met Asp Glu Ala Phe Asp Asn Thr Asn Ile Pro Ala Leu Val Tyr
Ala Leu Gln Asn Gly Gly Thr Val Val Ser Arg Asp Pro Phe Lys Ala Val Thr Phe Val Ala Asn His
Asp Thr Asp Ile Ile Trp Asn Lys Tyr Pro Ala Tyr Ala Phe Ile Leu Thr Gly Glu Gln Pro Val Ile
Phe Tyr Arg Asp Tyr Glu Glu Trp Leu Asn Lys Asp Lys Leu Asn Asn Leu Ile Trp Ile His Glu His
Leu Ala Gly Gly Ser Thr Lys Ile Leu Tyr Tyr Asp Asn Asp Glu Leu Ile Phe Met Arg Glu Gly Tyr
Gly Ser Lys Pro Gly Leu Ile Thr Tyr Ile Asn Leu Gly Asn Asp Trp Ala Glu Arg Trp Val Asn Val
Gly Ser Lys Phe Ala Gly Tyr Thr Ile His Glu Tyr Thr Gly Asn Leu Gly Gly Trp Val Asp Arg Trp
Val Gln Tyr Asp Gly Trp Val Lys Leu Thr Ala Pro Pro His Asp Pro Ala Asn Gly Tyr Gly Tyr
Ser Val Trp Ser Tyr Ala Gly Val Gly

SEQ ID NO: 113

atgaaacaacaaaacggctttacgcccgattgctgacgtgttatttggctcatcttctgtcgtcctattctgcagcagcggcgcaaatctta
atggcagcgtgatgcagtatatttgaattgacatgcccaatgacgc caacatgtgaagcgcgttgcacaaacgactcggcatatttggctgaacac
ggtattactgccgtcttgattccccccgcacataaagggaacgagccaagcggatgtggctacgggtcttaccgactttatgattaggggagttt
catcaaaaaaggcgggttcggacaaaatgacggcacaanaaggagagctgccaatctcgatcaaaagcttcttcccgacattaacgtttacg
gggatgtgtctcaacccaanaaggcggcgtgatgcgaccgaagatgaaccggcgggtgaagtcgatcccgctgacgcgaaccggttaatt
tcaaggagacacgcgaattaaagcctggacacattttcatttccggggcgcgcgcgacacatacagcgattttaaagtcattgttcaactttgac
ggaaccgattgggacgagtcgccgaagctgaaccgcattcataatgttcaaggaaagcgttggaattgggaaagtctcaatgaanaacggcaac
tatgattattgatgtatgccgacatc gattatgacatctgatgtcgcgcagaaaataagagatggcggcactgtgtatgccaatgactgaatt
ggacggcttgcgtcttgatgctgtcaaacacattaaatttcttttttggcggatgggttaatcatgtcagggaaaaaacggggaaaggaaattgta
cggttagctgaatatggcagaaatgcttggcgcgtcgtgaaacattttgaacaaaacaaatttatacttaccagtttgaagtcgccgttctat
cagttctcatgctgcatc gacacagggaggcggcctatgatataggaaattgtcgaacggatcgttcgtttccaagcattcgttgaagcgggtta
catttttgataaccatgatacacagcggcgggaatcgcttgagtcgactgtccaaactggttttaagccgcttcttaccgttcttcaacag
gaaactgataccctcaggtttttctacgggatagtatgacggacgaaaggagactccagcgcgaaattctcgttgaacacaaaattgaa
ccgactttaaagcggagaaaacagtgatgcgtacgagcacagcatgattatttcgaccaccatgacattctggcgttgcgaacgggaaggcgcac
agctcgggttcaaatcaggttttggcgcattataacacagacggacccggtggggcgaagcgaatgtatgtcggcgcgaaacgcccgggtga

Figure 16 (cont.)

gacatggcatgacattaccggaacggcttcggagccggtgtcatcaattcgggaagcgtgggagagtttcacgtaaacggcgggtcgggttca
atttatgttcaagatag

SEQ ID NO: 114

Met Lys Gln Gln Lys Arg Leu Tyr Ala Arg Leu Leu Thr Leu Leu Phe Ala Leu Ile Phe Leu Leu Pro
His Ser Ala Ala Ala Ala Asn Leu Asn Gly Thr Leu Met Gln Tyr Phe Glu Trp Tyr Met Pro Asn
Asp Gly Gln His Trp Lys Arg Leu Gln Asn Asp Ser Ala Tyr Leu Ala Glu His Gly Ile Thr Ala Val
Trp Ile Pro Pro Ala Tyr Lys Gly Thr Ser Gln Ala Asp Val Gly Tyr Gly Ala Tyr Asp Leu Tyr Asp
Leu Gly Glu Phe His Gln Lys Gly Thr Val Arg Thr Lys Tyr Gly Thr Lys Glu Leu Gln Ser Ala
Ile Lys Ser Leu His Ser Asp Ile Asn Val Tyr Gly Asp Val Val Ile Asn His Lys Gly Gly Ala
Asp Ala Thr Glu Asp Val Thr Ala Val Glu Val Asp Pro Ala Asp Arg Asn Arg Val Ile Ser Gly Glu
His Arg Ile Lys Ala Trp Thr His Phe His Phe Pro Gly Arg Gly Ser Thr Tyr Ser Asp Phe Lys Trp
His Trp Tyr His Phe Asp Gly Thr Asp Trp Asp Glu Ser Arg Lys Leu Asn Arg Ile Tyr Lys Phe Gln
Gly Lys Ala Trp Asp Trp Glu Val Ser Asn Glu Asn Gly Asn Tyr Asp Tyr Leu Met Tyr Ala Asp Ile
Asp Tyr Asp His Pro Asp Val Ala Ala Glu Ile Lys Arg Trp Gly Thr Trp Tyr Ala Asn Glu Leu Gln
Leu Asp Gly Phe Arg Leu Asp Ala Val Lys His Ile Lys Phe Ser Phe Leu Arg Asp Trp Val Asn His
Val Arg Glu Lys Thr Gly Lys Glu Met Phe Thr Val Ala Glu Tyr Trp Gln Asn Asp Leu Gly Ala
Leu Glu Asn Tyr Leu Asn Lys Thr Asn Phe Asn His Ser Val Phe Asp Val Pro Leu His Tyr Gln Phe
His Ala Ala Ser Thr Gln Gly Gly Gly Tyr Asp Met Arg Lys Leu Leu Asn Gly Thr Val Val Ser Lys
His Pro Leu Lys Ala Val Thr Phe Val Asp Asn His Asp Thr Gln Pro Gly Gln Ser Leu Glu Ser Thr
Val Gln Thr Trp Phe Lys Pro Leu Ala Tyr Ala Phe Ile Leu Thr Arg Glu Ser Gly Tyr Pro Gln Val
Phe Tyr Gly Asp Met Tyr Gly Thr Lys Gly Asp Ser Gln Arg Glu Ile Pro Ala Leu Lys His Lys Ile
Glu Pro Ile Leu Lys Ala Arg Lys Gln Tyr Ala Tyr Gly Ala Gln His Asp Tyr Phe His His Asp
Ile Val Gly Trp Thr Arg Glu Gly Asp Ser Ser Val Ala Asn Ser Gly Leu Ala Ala Leu Ile Thr Asp
Gly Pro Gly Gly Ala Lys Arg Met Tyr Val Gly Arg Gln Asn Ala Gly Glu Thr Trp His Asp Ile Thr
Gly Asn Arg Ser Glu Pro Val Val Ile Asn Ser Glu Gly Trp Gly Glu Phe His Val Asn Gly Gly Ser
Val Ser Ile Tyr Val Gln Arg

SEQ ID NO: 115

atggcgaagtactccgagctggagcaggcgaggatcataatgcagcccttactctgggagcttcggaggagggaactctgtgggacacaat
acggcgaagatccctgaatgtagcatgacgagcatatccgccatctggataccccggcgagcaaggcgatggcgggcgccctactctgatg
ggctacgaccctcagattactcgtatctggcgaggtttaccagaagggaaccgttgagaccgcttcggctccaagggaagctcgtcaaca
tgatctccacggccaccagatcggcatcaaggatagcggacatagtgataaacaccgcgcaggtggagacctcgaatggaaccatac
gtcggcgactatactggcggacttttctaaggctgcctccgggaataacaaggccactatggacttccatacaacaactacagacacct
cacagagggaacctctggcgcttccacagacatgatcatcgtgccttcaaccaactactggctgtggcgagcaaacgagagctacgccg
cctactcaggagcatataggatcgtatcgttgccttgcactacgttaagggtacggcgctgggtcgtcaaggactcgtcgtacgtatggg
ggcgctggcgctcggcgagctatgggacacaaacgtcgtatgcctcctcaactggcctacagcagcgcgcccaagggtcttcgacttccc
gctctactacaagaatggcagaggcctttgacacaagaacattcccgccctggttacgccatcagaacgggtgaaccgtctgcagcagggat
cccttcaaggccgttacttctgtgtcattaccacgatacgaacataacttggnaacaagtaccctgcctatgcttactctgacctcagaaggtcag
cccgctacttctaccgcgactacgaggagtggtcctaacaaggacaaactcaacactcatatggattacagagaccttgcagggcggaag
caccagaatctctactacgacacgatgagctcatcttcatgagggaaggctacggcgacaggccggcggtataacctacatcaacctcgggt
agcgacttggggcgagagatgggtgaacgttggctcaaaagttcgccggctatataccacgaatacacccgaaacactcggcgctgggtgcg
acaggtacgtccagtacagcgctgggttcacgtcctcgcgcacacgatccggcaacggtactatcggctactcggctcgggtacgacg
ccggagttgggaagtctcatcaccatcaccatcactaa

SEQ ID NO: 116

Met Ala Lys Tyr Ser Glu Leu Glu Gln Gly Gly Val Ile Met Gln Ala Phe Tyr Trp Asp Val Pro Glu
Gly Gly Ile Trp Trp Tyr Thr Ile Arg Gln Lys Ile Pro Glu Trp Tyr Asp Ala Gly Ile Ser Ala Ile Trp
Ile Pro Pro Ala Ser Lys Gly Met Gly Gly Ala Tyr Ser Met Gly Tyr Asp Pro Tyr Asp Tyr Phe Asp
Leu Gly Glu Phe Tyr Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Glu Glu Leu Val Asn Met

Figure 16 (cont.)

Ile Ser Thr Ala His Gln Tyr Gly Ile Lys Val Ile Ala Asp Ile Val Ile Asn His Arg Ala Gly Gly Asp
 Leu Glu Trp Asn Pro Tyr Val Gly Asp Tyr Thr Trp Thr Asp Phe Ser Lys Val Ala Ser Gly Lys Tyr
 Lys Ala His Tyr Met Asp Phe His Pro Asn Asn Tyr Ser Thr Ser Asp Glu Gly Thr Phe Gly Gly Phe
 Pro Asp Ile Asp His Leu Val Pro Phe Asn Gln Tyr Trp Leu Thr Ala Ser Asn Glu Ser Tyr Ala Ala
 Tyr Leu Arg Ser Ile Gly Ile Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Gly Ala Trp Val Val
 Lys Asp Trp Leu Ser Gln Trp Gly Gly Trp Ala Val Gly Gly Tyr Trp Asp Thr Asn Asp Ala Leu
 Leu Asn Trp Ala Tyr Ser Ser Gly Ala Lys Val Phe Asp Phe Pro Leu Tyr Thr Lys Met Asp Glu Ala
 Phe Asp Asn Lys Asn Ile Pro Ala Leu Val Tyr Ala Ile Gln Asn Gly Glu Thr Val Val Ser Arg Asp
 Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asn Ile Ile Trp Asn Lys Tyr Pro Ala Tyr
 Ala Phe Ile Leu Thr Tyr Gly Gln Pro Val Ile Phe Tyr Arg Asp Tyr Glu Trp Leu Asn Lys
 Asp Lys Leu Asn Asn Leu Ile Trp Ile His Glu His Leu Ala Gly Gly Ser Thr Lys Ile Leu Tyr Tyr
 Asp Asp Asp Glu Leu Ile Phe Met Arg Glu Gly Tyr Gly Asp Arg Phe Gly Leu Ile Thr Tyr Ile Asn
 Leu Gly Ser Asp Trp Ala Glu Arg Trp Val Asn Val Gly Ser Lys Phe Ala Gly Tyr Thr Ile His Glu
 Tyr Thr Gly Asn Leu Gly Gly Trp Val Asp Arg Tyr Val Gln Tyr Asp Gly Trp Val Lys Leu Thr Ala
 Pro Pro His Asp Pro Ala Asn Gly Tyr Tyr Gly Tyr Ser Val Trp Ser Tyr Ala Gly Val Gly Arg Ser
 His His His His His His

SEQ ID NO: 117

ttgcgagtggttctgtgtgtgccaagctgagcgcgccatttcaggcagagtcacacaacaagacagggcataacaatgaaacacacagcg
 ggaatgctggcgcgcgaggtatgctgtagtccccctggcgcatgcgatgtcactatgcagccttcaactggaatacagtgaagtcaccg
 ccaagcgcatctcaacaggctgcgcacataagcaggtgctatctacccgcttgaagctcctgggcaacagtggtggtgctgttacc
 agccccaggatctgcgcctgtgctgacacccccctggccaacagcaggatctgagcagctgacgcgcgagtcgagaccggggcattgc
 cgtctacgcggagctgtgtgctcaacacatggccaacgaaagctggaagcgcagcgcactcaactaccggcgagcgcgtctgtcgaag
 ctacgcggcaatccggcctactttgaacgccagaagctcttggcgatctggggcagaacttctcgcggccaggatttaccggaagg
 tgcataccgactgcaaacatccgggcatgttcacgtactggcgactgtgcccggggcggtgacgaaggcggtgcgggacatccgca
 acaactgggtggtgaaccagcaacaggcttacctgcagcgctcaaggggatgggacaaagggtttcgtgcgtgcggatcagacat
 agcgattaccagatcaacgccgtgttcacccccgagatcaaacaggggatgcactgtttggcgaggtgacacacaggggggcgccgga
 acagcgactatgagaacttctcaaaccttaccctgcacagcagcggccaggggggcctacgacttcccgccttgcctcctgctgtagcgc
 ttggctacggcgccgagcatgaacctgctgcccgatccgggtgctatggtcagggcgtccgggtagccgcgcgctaaccttgcacatcc
 cacgacatcccccaacgacggtttccgctaccagatctctcaaccagaccgacgagagactggcctatgcttacctgctggctgcgtaggc
 gggttcgcctctgctactcgcataccgggtgaaccaggggacaaaggacggattgcgtggcaggactactatctgcgcaccgatccaaagg
 atgatccgcttcataacacaggtgcagggtcaaccgatgcagctcatccgagtaacgactgctgtgctgtgctgcaagcgtggcaagcagggc
 gtgctcgcatcaacaaggtgcgactcagcaggagctactgctcgataccgccagattcgagatgaactggtatcgcaactaccgggagtg
 ctgcacagaatggcgtgtgcacgtgcagagccagtggtgaaggctgacctcccgccgcggcgccagaatgtgctgcaggagtgga

SEQ ID NO: 118

Met Arg Val Phe Leu Val Val Pro Lys Leu Ser Arg Pro Phe Gln Ala Glu Ser Gln Gln Gln Asp Arg
 Asp Ile Thr Met Lys His Thr Ala Gly Met Leu Ala Ile Ala Gly Met Leu Ile Ala Pro Leu Ala His
 Ala Asp Val Ile Leu His Ala Phe Asn Trp Lys Tyr Ser Glu Val Thr Lys Lys Ala Asp Leu Ile Lys
 Ala Ala Gly Tyr Lys Gln Val Leu Ile Ser Pro Pro Leu Ser Tyr Ser Gly Asn Gly Trp Trp Ala Arg
 Tyr Gln Pro Gln Asp Leu Arg Leu Val Asp Thr Pro Leu Gly Asn Lys Gln Asp Leu Glu Gln Leu Ile
 Ala Ala Met Gln Thr Arg Gly Ile Ala Val Tyr Ala Asp Val Val Leu Asn His Met Ala Asn Glu Ser
 Trp Lys Arg Ser Asp Leu Asn Tyr Pro Gly Ser Glu Leu Leu Gln Ser Tyr Ala Gly Asn Pro Ala Tyr
 Phe Glu Arg Gln Lys Leu Phe Gly Asp Leu Gly Gln Asn Phe Leu Ala Gly Gln Asp Phe His Pro
 Glu Gly Cys Ile Thr Asp Trp Asn Asn Pro Gly His Val Gln Tyr Trp Arg Leu Cys Gly Gly Ala Gly
 Asp Lys Gly Leu Pro Asp Leu Asp Pro Asn Asn Trp Val Val Asn Gln Gln Gln Ala Tyr Leu Gln
 Ala Leu Lys Gly Met Gly Ile Lys Gly Phe Arg Val Asp Ala Val Lys His Met Ser Asp Tyr Gln Ile
 Asn Ala Val Phe Thr Pro Phe Thr Ile Lys Gln Gly Met His Val Phe Gly Glu Val Ile Thr Thr Gly
 Ala Gly Asn Ser Asp Tyr Glu Asn Phe Leu Lys Pro Tyr Leu Asp Ser Ser Gly Gln Gly Ala Tyr Asp
 Phe Pro Leu Phe Ala Ser Leu Asp Gly Ala Glu Gly Tyr Gly Gly Ser Met Asn Leu Leu Ala Asp Pro

Figure 16 (cont.)

Gly Ala Tyr Gly Gln Ala Leu Pro Gly Ser Arg Ala Val Thr Phe Ala Ile Thr His Asp Ile Pro Thr
 Asn Asp Gly Phe Arg Tyr Gln Ile Leu Asn Gln Thr Asp Glu Arg Leu Ala Tyr Ala Tyr Leu Leu Gly
 Arg Asp Gly Gly Ser Pro Leu Val Tyr Ser Asp His Gly Glu Thr Arg Asp Lys Asp Gly Leu Arg Trp
 Gln Asp Tyr Tyr Leu Arg Thr Asp Leu Lys Gly Met Ile Arg Phe His Asn Thr Val Gln Gly Gln Pro
 Met Gln Leu Ile Gly Ser Asn Asp Cys Phe Val Leu Phe Lys Arg Gly Lys Gln Gly Val Val Gly Ile
 Asn Lys Cys Asp Tyr Glu Gln Glu Tyr Trp Leu Asp Thr Ala Arg Phe Glu Met Asn Trp Tyr Arg
 Asn Tyr Arg Asp Val Leu Gly Gln Asn Ala Val Val Asn Val Gln Trp Val Arg Leu Gly Thr Ile
 Pro Ala Arg Gly Ala Arg Met Trp Leu Gln Glu

SEQ ID NO: 119

atgcacacgtttgcattcttattttactcaaaagaaggatgggtgtgcatgaattatttgaacaaagtgtgtgttattacgtctatcgtcgtacacctaa
 tcatttcttcttaccattctttcaacagcacaagctaaactgtcaacctgttaacgggaacaatgatgcataatgttgcctccctccagcatataaaggacagagcc
 gacgtctttggcagaagtaaaaaatgaagctaccaacttttttctactaggtatcacaacgacatcatgttgcctccctccagcatataaaggacagagcc
 aaagcgatgtcggaacgtgtgttaccattttatgacctgtgggaatttaacaaaaaggagacatccgaacgaaatccggaacaaaacaca
 atatattcaaggccattcaaacgtgccaaagccgagggatgcaagtatatcggtatgttatttaatacgaaggcaggggtgacagtacagaatt
 tgtcgatgcagtgggtaaacccctctaotgaaatcaagaacatctggcacatatcaaatcaagcatgtgacaacaaattgtattttctgtctgtg
 gaaacacatactcagcttcaaatggcgctgtgacattttgtgtgacggattggagcagaagctgtcaataaactgtatttacaattccggg
 tacaggaagaagcgtgtgagctgggaagtcgatacagaaaacggaaactatgattatttaattgttgcgtgatttagatggatcacccgtgaggtgt
 gacagaattaaaaaactgtgggaacgtgtgactgcataactacaataatcgatggattccgcttagatgccgaataacataataatcacagcttttcc
 cctgactggcgtacatattgactgataacaaaggaaaaaatttattgccgttggggaattttggagctatgacgtcaataaagctgataataacat
 tacaacaaacaaatgggtcgatgctatttattgtgcacccctgcataacaaactttatccgttccaaatcgagtgataattttgacgtgatttatt
 tgaataatacattatgaagatcaaccccttactcgtctgataacatgtcgataaccacgacagcaacgggaacatctttacagctatgggtgc
 aacctgtgtttaaaccgtgttactgcctttttaaacaagacaaagggatccctgttattcgggtgatttatttgaatccccaataacat
 atcccccgggttataaaagtataaactgacccgcttttaattgctcgtgtgattacgcttgaacacaaacgtgattacatcaagaacattat
 cggatggcagcagaagggcattgtatgcaaaacggaactcgtgactggcggttatttaaccgacgctcctgtgtggaagtaaatggtatgtatg
 ggtaaaagcatgcggggaagattttatgatttaactggaatcgaaatgcacagataacgattatgcggatgtgtgggagaatttaagta
 aacggaggtacccgtcatttgggtggcctaaacgtcaaacgtcacatttaccgtcaataacgccacaacacaaacgggacaaaacgtatagt
 ttgtgcacaactcagagtaggcaattgtgtgcacgggttaa

SEQ ID NO: 120

Met Gln Thr Phe Ala Phe Leu Phe Tyr Ser Lys Lys Gly Trp Val Cys Met Asn Tyr Leu Lys Lys Val
 Trp Leu Tyr Tyr Ala Ile Val Ala Thr Leu Ile Ile Ser Phe Leu Thr Pro Phe Ser Thr Ala Gln Ala Asn
 Thr Ala Pro Val Asn Gly Thr Met Met Gln Tyr Phe Glu Trp Asp Leu Pro Asn Asp Gly Thr Leu
 Trp Thr Lys Val Lys Asn Glu Ala Thr Asn Leu Ser Ser Leu Gly Ile Thr Ala Leu Trp Leu Pro
 Ala Tyr Lys Gly Thr Ser Gln Ser Asp Val Gly Tyr Gly Val Tyr Asp Leu Tyr Asp Leu Gly Glu Phe
 Asn Gln Lys Gly Thr Ile Arg Thr Lys Tyr Gly Thr Lys Thr Gln Tyr Ile Gln Ala Ile Gln Thr Ala
 Gln Ala Ala Gly Met Gln Tyr Tyr Ala Asp Val Phe Asn His Lys Glu Ala Gly Ala Ser Thr Glu
 Phe Val Asp Ala Val Glu Val Asn Pro Ser Asn Arg Asn Gln Glu Thr Ser Gly Thr Tyr Gln Ile Gln
 Ala Trp Thr Lys Phe Asp Phe Pro Gly Arg Gly Asn Thr Tyr Ser Ser Phe Lys Trp Arg Trp Tyr His
 Phe Asp Gly Thr Asp Thr Asp Glu Ser Arg Lys Leu Asn Arg Ile Tyr Phe Lys Phe Arg Gly Thr Gly Lys
 Ala Trp Asp Trp Glu Val Asp Thr Glu Asn Gly Asn Tyr Asp Tyr Leu Met Phe Ala Asp Leu Asp
 Met Asp His Pro Glu Val Val Thr Glu Leu Lys Asn Trp Gly Thr Tyr Val Asn Thr Thr Asn Ile
 Asp Gly Phe Arg Leu Asp Ala Val Lys His Ile Lys Tyr Ser Phe Phe Pro Asp Trp Leu Thr Tyr Val
 Arg Asn Gln Thr Gly Lys Asn Leu Phe Ala Val Gly Glu Phe Trp Ser Tyr Asp Val Asn Lys Leu His
 Asn Tyr Ile Thr Lys Thr Asn Gly Ser Met Ser Leu Phe Asp Ala Pro Leu His Asn Asn Phe Thr Thr
 Ala Ser Lys Ser Ser Gly Tyr Phe Asp Met Arg Tyr Leu Leu Asn Asn Thr Leu Met Lys Asp Gln
 Pro Ser Leu Ala Val Thr Leu Val Asp Asn His Asp Thr Gln Pro Gly Gln Ser Leu Gln Ser Trp Val
 Glu Pro Trp Phe Lys Gln Leu Ala Tyr Ala Phe Ile Leu Thr Arg Gln Glu Gly Tyr Pro Cys Val Phe
 Tyr Gly Asp Tyr Tyr Gly Ile Pro Lys Tyr Asn Ile Pro Gly Leu Lys Ser Lys Ile Asp Pro Leu Leu Ile
 Ala Arg Arg Asp Tyr Asp Tyr Ala Arg Asp Tyr Ile Asp Asn His Asp Ile Ile Gly Trp Thr

Figure 16 (cont.)

Arg Glu Gly Ile Asp Ala Lys Pro Asn Ser Gly Leu Ala Ala Leu Ile Thr Asp Gly Pro Gly Gly Ser
Lys Trp Met Tyr Val Gly Lys Lys His Ala Gly Lys Val Phe Tyr Asp Leu Thr Gly Asn Arg Ser Asp
Thr Val Thr Ile Asn Ala Asp Gly Trp Gly Glu Phe Lys Val Asn Gly Gly Ser Val Ser Ile Trp Val
Ala Lys Thr Ser Asn Val Thr Phe Thr Thr Val Asn Asn Ala Thr Thr Thr Ser Gly Gln Asn Val Tyr Val
Val Gly Asn Ile Pro Glu Leu Gly Asn Cys Arg Thr Gly

SEQ ID NO: 121

atgctcgcctgtcgtcgtggcggtcgtggcgtacgacgcgggcccagagccctcgcgtcgtggagccgtgtccgcagcgcgccacgttc
cgcaggatgaccgcgccagcggccacgcggcccgccgacgtgttcgtgacacctgttcgagtggaagtggccggacatcgcgagggaat
gcgagacagtgctggggccgcggcggtacgagggcggtgacgtgtcgcgcgcagagcactgtgtgcagcagggggcgccgtgtgtg
cgagcgtgtaccagccgggtgagctactcgtgtggtgcgtgacgcgcagcggcagggcggtggaggttcagacaacatgatcagccgtgtcgaaggc
cgccgcgggtgggacatcactgtggacgcgtcatcaacacatgacggcgggtgcggggagcggggagcgaacggcaccgctacaccaagta
caactacccccggcgtgtacgcgcagggcggaacttcaccgcagtgccgcgtgtggcgac tacaccagcgcggcaacgtgacaggactgcga
actcgtggggctgtgtgacctgaacaccggcgccggcggtgcgcagcagaagatcgccggaactactgtgtcgtcgtgtgcgcggctgggcgt
ggcgggttttcgcatgcagccgcgaagacatccagccggtgggaactgacgccatcgtggaccgcgtgaaccagacgtggcgggcgga
ggggcgcccgcttccctactgtgttcgccgaggtgtatcacaacggcgccggaggggggtgcggcgcgagcactactacggctgggatacgg
caccggcgggcgccgcgacatcagggagttccgctacaaggcggtggcgacaaagtctggggcagcgcggccagcggcgtgtgtgacc
tgaagaacttctggcggtgtgacgtgggaacctgatccgctcggacaaggccgtcgtctttcggagaaccacgatacgcagcgcggcgccgcgc
atcggtcaccgcgatggcaccggcgttcggcgtggccaacgtgtgtgatcgtgcgcagccgtacggctatccgtcgtgtgatgtccacatgc
ctttgaccgcacctccccctttggccgcgacgcgcggccgccctccgagggcggcgacgaaggagctgacgtgcgcggccacgtgtgga
gacggcggtgctggcaccctgggtgtgtagcaccgcgaccgccgtatcaccgcgatgtggcgcttcgccgcgcgatggcgggcacgga
cctgaaccgtcgtgtgggacacggcgccgaacgccattgccttttcgcgcggggaccgggggtcgtgcgccatcagccgcgagccgaagggtg
accatggcgggcgtgcccagcggactgtccccggcaccactactgcgacgtgtgcgcggcgaacgttggcgcaacgcgtgcggggaac
cagcgtgcagctgaactcagggcggtgtgacgtgagcatgtcagaactcggctcgtgtgacccacctggggcggaagctgtacaggc
gcgtggcggtgtgcggagg

SEQ ID NO: 122

Met Leu Ala Leu Ser Leu Gly Gly Cys Gly Ile Asp Ala Gly Pro Thr Gly Pro Arg Val Val Glu Pro
Leu Pro Gln Arg Pro Thr Leu Pro Gln Glu Tyr Arg Ala Ser Gly His Ala Ala Ala Gly Asp Val Phe
Val His Leu Phe Glu Trp Lys Trp Pro Asp Ile Ala Glu Glu Cys Glu Asn Val Leu Gly Pro Ala Gly
Tyr Glu Ala Val Gln Val Ser Pro Pro Gln Glu His Leu Val Gln Gln Gly Ala Pro Trp Trp Gln Arg
Tyr Gln Pro Val Ser Tyr Ser Val Ala Leu Ser Arg Ser Gly Thr Gly Val Glu Phe Ser Asn Met Ile
Ser Arg Cys Lys Ala Ala Gly Val Asp Ile Tyr Val Asp Ala Val Ile Asn His Met Thr Ala Gly Ala
Gly Thr Gly Ser Asn Gly Thr Ala Tyr Thr Lys Tyr Asn Tyr Pro Gly Leu Tyr Ala Gln Ala Asp Phe
His Pro Gln Cys Ala Val Gly Asp Tyr Thr Ser Ala Ala Asn Val Gln Asp Cys Glu Leu Leu Gly Leu
Ala Asp Leu Asn Thr Gly Ala Ala Gly Val Gln Gln Lys Ile Ala Asp Tyr Leu Val Ser Leu Ala Arg
Leu Gly Val Ala Gly Phe Arg Ile Asp Ala Ala Lys His Ile Gln Pro Val Glu Leu Asp Ala Ile Val
Asp Arg Val Asn Gln Thr Leu Ala Ala Glu Gly Arg Pro Leu Pro Tyr Trp Phe Ala Glu Val Ile Asp
Asn Gly Gly Glu Gly Val Arg Arg Glu His Tyr Tyr Gly Leu Gly Tyr Gly Thr Gly Gly Ala Ala Asp
Ile Thr Glu Phe Arg Tyr Lys Gly Val Gly Asp Lys Phe Leu Gly Ser Gly Thr Gly Arg Leu Val Asp
Leu Lys Asn Phe Ser Ala Val Thr Trp Asn Leu Met Pro Ser Asp Lys Ala Val Val Phe Leu Glu Asn
His Asp Thr Gln Arg Gly Gly Gly Ile Gly Tyr Arg Asp Gly Thr Ala Phe Arg Leu Ala Asn Val Trp
Met Leu Ala Gln Pro Tyr Gly Tyr Pro Ser Val Met Ser Ser Tyr Ala Phe Asp Arg Thr Ser Pro Phe
Gly Arg Asp Ala Gly Pro Pro Ser Glu Asp Gly Ala Thr Lys Asp Val Thr Cys Ala Pro Thr Leu Glu
Thr Ala Val Leu Gly Thr Trp Val Cys Glu His Arg Asp Pro Val Ile Gln Arg Met Val Gly Phe Arg
Arg Ala Met Ala Gly Thr Asp Leu Asn Arg Trp Trp Asp Asn Gly Gly Asn Ala Ile Ala Phe Ser Arg
Gly Asp Arg Gly Phe Val Ala Ile Ser Arg Glu Pro Lys Val Thr Met Ala Ala Val Pro Ser Gly Leu
Ser Pro Gly Thr Tyr Cys Asp Val Leu Thr Gly Gly Lys Val Thr Met Ala Cys Ala Gly Thr Ser Val
Thr Val Asp Ser Gln Gly Val Val Gln Leu Ser Ile Val Glu Asn Ser Ala Leu Val Ile His Leu Gly
Ala Lys Leu Arg Arg Ala Gly Gly Cys Ala Glu

Figure 16 (cont.)

SEQ ID NO: 123

atgccccaagccattgcactttttcacgttgacgttgctgaccttaacggcggttttctgcttggctcgtcttttctgccaccgccgaatcc
aggccccagacaacccggcccggtaccgttatgtgtcacctctcgaatgggaatfagaccgacatcgttaagaaatgcgagaatttctcgtgac
cgaaaggctttgccgcgaatccaggtatgcgcgccccaggacatgiccagggttcgcaatgttggaaccgctactagccggtagctacaag
atcgagagccgctccggcacccggccgaggttcgccaataatggctcgcgcgtgcaaaagccgtcggggctgatatatgctgatgcggtgac
aaccatatgacgactgcggctcggacatggatgctggatcgagctacacatccggcgctgatatcagaccaggacttcc
accactgcggcgcaatggcaacgatgatatcagcagctacggcgatcgtctgggaatgacaaaatcgcgaatctgcaacctagccgacctc
aacacgctgctgagtatgtccggggtaaacctgccgctatatgaacgatctgcgcggctggggcgtcggcggaatttcggatcgatccgcc
aagcacatgataacacacacatcaacaatatcgttggccgctgcccacacgcgccctacatctacaggaaagtatgacgaccaggcgggcga
gccaattaccgcggcggaatacttcagaatggcgatgtgaccgaggttcaagatagacggcgagatctcgcgcatgttcaaaacggcgacgt
gaccatattagccagttcggcactgctggggcttcatgtccagcgacctggcagtagttttaccgataaccacgacaaccagcgcgttca
cggcgggcgccgctgatgtctgacacaaagatggccagctgtacacctggcgcaatacttcgagctagccctggccgtagtgctaccaca
gtgatgtcagctacacgttcagcaacggcgaccaggggccgcacatgaccatgtgtacgcaaccacacgcgctgattgtggcaacggcc
gtgggtctgtgagcaccgctggcgaggaatcgccaacatggctgcggttccgaactacaccgcccgaacttcagcagcagcaactgtgtgg
agcaacggcaacaacagatcgtttcagccgcgggaccttggcgtttgttggcgatcaactgggaaggtggcagcctgaaccgcaccttcca
aacgcgctcggcgtcggcaccatctcgtgatgtcattcaccggcgatttcaatgccagcgcggcgacctgttccggcccaactatcgtgttcaac
gctcccgccagcggaacatcacgcgtcaacgcgatggacgcggttggcgatctacggcgagcgagctcgcacactcggcagatgttcaac
gtgacattcaacgaaacgcacgaccactggggcgagaatgtgtatctctgcgcgaacgtcgcggcctggcgacgtggaacgacggcga
gcgggcttactctctcctcgtactaacccaatctggagcaagaccatcgccctgcagcgcaacacgcgcaattgagtaacagatcataaaaa
ggatgcgcgggcaatgtgtgttgggaagcgggcgcccaacgcgctttaccaccccccgcagcggcgatcgacgcgacggaacgatacctg
gaaatag

SEQ ID NO: 124

Met Pro Gln Ala Ile Arg Thr Phe Ser Arg Trp Thr Leu Phe Gly Leu Ile Gly Val Phe Leu Leu Gly
Leu Val Phe Ser Val Pro Pro Arg Ala Ile Gln Ala Gln Thr Thr Pro Ala Arg Thr Val Met Val His
Leu Phe Glu Trp Lys Trp Thr Asp Ile Ala Lys Glu Cys Glu Asn Phe Leu Gly Pro Lys Gly Phe Ala
Ala Ile Gln Val Ser Pro Pro Gln Glu His Val Gln Gly Ser Gln Trp Trp Thr Arg Tyr Gln Pro Val Ser
Tyr Lys Ile Glu Ser Arg Ser Gly Thr Arg Ala Phe Ala Asn Met Val Ser Arg Cys Lys Ala Val
Gly Val Asp Ile Tyr Val Asp Ala Val Ile Asn His Met Thr Thr Val Gly Ser Gly Thr Gly Met Ala
Gly Ser Thr Tyr Thr Ser Tyr Thr Tyr Pro Gly Leu Tyr Gln Thr Gln Asp Phe His His Cys Gly Arg
Asn Gln Asn Asp Asp Ile Ser Ser Tyr Gly Asp Arg Trp Gln Val Gln Asn Cys Glu Leu Leu Asn
Leu Ala Asp Leu Asn Thr Gly Ala Glu Tyr Val Arg Gly Lys Leu Ala Ala Tyr Met Asn Asp Leu
Arg Gly Leu Gly Val Ala Gly Phe Arg Ile Asp Ala Ala Lys His Met Asp Thr Asn Asp Ile Asn Asn
Ile Val Gly Arg Leu Pro Asn Ala Pro Tyr Ile Tyr Gln Glu Val Ile Asp Gln Gly Gly Glu Pro Ile Thr
Ala Gly Glu Tyr Phe Gln Asn Gly Asp Val Thr Glu Phe Lys Tyr Ser Arg Glu Ile Ser Arg Met Phe
Lys Thr Gly Gln Leu Thr His Met Ser Gln Phe Gly Thr Ala Trp Gly Phe Met Ser Ser Asp Leu Ala
Val Val Phe Thr Asp Asn His Asp Asn Gln Arg Gly His Gly Gly Ala Gly Asp Val Leu Thr Tyr
Lys Asp Gly Gln Leu Tyr Thr Leu Gly Asn Ile Phe Glu Leu Ala Trp Pro Tyr Gly Tyr Pro Gln Val
Met Ser Tyr Thr Phe Ser Asn Gly Asp Gln Gly Pro Ser Thr Asn Val Tyr Ala Thr Thr Thr
Pro Asp Cys Gly Asn Gly Arg Trp Val Cys Glu His Arg Trp Arg Gly Ile Ala Asn Met Val Ala Phe
Arg Asn Tyr Thr Ala Pro Thr Phe Ser Thr Ser Asn Trp Trp Ser Asn Gly Asn Gln Ile Ala Phe
Ser Arg Gly Thr Leu Gly Phe Val Ala Ile Asn Arg Glu Gly Gly Ser Leu Asn Arg Thr Phe Gln Thr
Gly Leu Pro Val Gly Thr Tyr Cys Asp Val Ile His Gly Asp Phe Asn Ala Ser Ala Gly Thr Cys Ser
Gly Pro Thr Ile Ala Val Asn Gly Ser Gly Gln Ala Thr Ile Thr Val Asn Ala Met Asp Ala Val Ala Ile
Tyr Gly Gly Ala Arg Leu Ala Thr Pro Ala Ser Val Asn Val Thr Phe Asn Glu Asn Ala Thr Thr Thr
Tyr Gly Gln Asn Val Tyr Ile Val Gly Asn Val Ala Ala Leu Gly Ser Trp Asn Ala Gly Ser Ala Val
Leu Leu Ser Ser Ala Asn Tyr Pro Ile Trp Ser Lys Thr Ile Ala Leu Pro Ala Asn Thr Ala Ile Gly Tyr
Lys Tyr Ile Lys Lys Asp Gly Ala Gly Asn Val Val Trp Glu Ser Gly Ala Asn Arg Val Phe Thr Thr
Pro Gly Ser Phe Ser Ala Thr Arg Asn Asp Thr Trp Lys

Figure 16 (cont.)

SEQ ID NO: 125

gtgggtgcacatgaagttgaagtaccttgccttagttttgttggtgttggttcgataggcctactctgactccagtggtgtgtgccaagtactccg
aactcgaaagaggcgggtgttataatgcaggcccttactgggaattgccggagggggaactctgttgggacaccataagacagaaatcccg
gagtggtacgacgctggaatctgcggatataggattctccagctagcgaaggatggcggtgtgttatccatgggctacgatccctacgattt
ctttgacctcggcgatfactalcagaagggaacagttgagacgcgttcggctcaaaaggaggaactggtgaacatgataaacaccgcacactc
ctatggcataaagtgtagacgggacatagtataaacaccacgcgcgggtggagaccttgagtggaaacctgttgaatacaactatacttgaca
gacttctccaaagtcgctccggttaataacacggccaactactgacttccaccacaacgaggtcaagtgctgcgtaggggtacatttgggtga
ctttccggacatcgccacaggaagagctgggatcagctatggctcttgggcaagcaatgagagctacgccgatacttccggagcatagggga
tcgatcatggcgtttcgtactcctcaaaagttacggagcgtgggtgtttaaigtactgctcagctggtgggagagctggggcgttgggagagta
ctgggacacgaacgttgtagtgcactcttaactgggcatcagacagcgggtccaaggtctttgacttcccgctctactacaagatggacgaagcc
ttgacaacaccaactccccgtttgtttacgccctccagaacggaggaacagtcgtttcccgcatccctcaaggcagtaactttctgttgc
aacacagatcacagataaacttggaacaagatccggtctatgtcgttcatcttactatgaggagcagccctgtatatattaccgcgactacgagg
agtggtccaaacaggaataagcttaacacacttacttgatcacacgagcacttccggagggaagtacaaagatccttactacgataacgatga
gctaataattactgagggagggtctacgggacgaagccggcctcataaactacataaacctcggaaacgactggccgagcgtgggtggaac
gtcggtcctaaagttgccggctacacaatcatgaataacacaggaactcgggtggtgggtgacaggtgggttcagtcagtgatggatgggta
aactgacggcactctcatgatccagccaacggatattacggctactcagcttgagactacgagcgtcgcatga

SEQ ID NO: 126

Val Val His Met Lys Leu Lys Tyr Leu Ala Leu Val Leu Leu Ala Val Ala Ser Ile Gly Leu Leu Ser
Thr Pro Val Gly Ala Leu Lys Tyr Ser Glu Leu Glu Gly Gly Val Ile Met Gln Ala Phe Tyr Trp
Asp Val Pro Gly Gly Gly Ile Trp Trp Asp Thr Ile Arg Gln Lys Ile Pro Glu Trp Tyr Asp Ala Gly Ile
Ser Ala Ile Trp Ile Pro Pro Ala Ser Lys Gly Met Gly Tyr Ser Met Gly Tyr Asp Pro Tyr
Asp Phe Phe Asp Leu Gly Glu Tyr Tyr Gln Lys Gly Thr Val Glu Thr Arg Phe Gly Ser Lys Glu Glu
Leu Val Asn Met Ile Asn Thr Ala His Ser Tyr Gly Ile Lys Val Ile Ala Asp Ile Val Ile Asn His Arg
Ala Gly Gly Asp Leu Glu Trp Asn Pro Phe Val Asn Asn Tyr Trp Thr Asp Thr Ser Lys Val Ala
Ser Gly Lys Tyr Thr Ala Asn Tyr Leu Asp Phe His Pro Asn Glu Val Lys Cys Cys Asp Glu Gly Thr
Phe Gly Asp Phe Pro Asp Ile Ala His Glu Lys Ser Trp Asp Gln Tyr Trp Leu Trp Lys Ser Asn Glu
Ser Tyr Ala Tyr Ala Leu Arg Ser Ile Gly Ile Asp Ala Trp Arg Phe Asp Tyr Val Lys Gly Tyr Gly
Ala Trp Val Val Asn Asp Trp Leu Ser Trp Trp Gly Gly Trp Ala Val Gly Glu Tyr Trp Asp Thr Asn
Val Asp Ala Leu Leu Asn Trp Ala Tyr Asp Ser Gly Ala Lys Val Phe Asp Phe Pro Leu Tyr Trp Lys
Met Asp Glu Ala Phe Asp Asn Thr Asn Ile Pro Ala Leu Val Tyr Ala Gln Asn Gly Gly Thr Val
Val Ser Arg Asp Pro Phe Lys Ala Val Thr Phe Val Ala Asn His Asp Thr Asp Ile Ile Trp Asn Lys
Tyr Pro Ala Tyr Ala Phe Ile Leu Thr Tyr Glu Gly Gln Pro Val Ile Phe Tyr Arg Asp Tyr Glu Glu
Trp Leu Asn Lys Asp Lys Leu Asn Asn Leu Ile Trp Ile His Glu His Leu Ala Gly Gly Ser Thr Lys
Ile Leu Tyr Tyr Asp Asn Asp Glu Leu Ile Phe Met Arg Glu Gly Tyr Gly Ser Lys Pro Gly Leu Ile
Thr Tyr Ile Asn Leu Asn Asp Trp Ala Glu Arg Trp Val Asn Val Gly Ser Lys Phe Ala Gly Tyr
Thr Ile His Glu Tyr Thr Gly Asn Leu Gly Gly Trp Val Asp Arg Trp Val Gln Tyr Asp Gly Trp Val
Lys Leu Thr Ala Pro Pro His Asp Pro Ala Asn Gly Tyr Tyr Gly Tyr Ser Val Trp Ser Tyr Ala Gly
Val Gly

SEQ ID NO: 127

gtgtgcatgaattatttgaaaaaagtggtgtattacgctatgcctgacttaacttacttctacgccttttcaactgcacaagccaacac
gtccaccagtcacgaagcatgatgcaatttccgaatgtattaccgaatgatggcacctttggagcaagtaaaaaacgaagcaagcagt
cttctcttttagtattactcgtttactgtttaccactgcatacaaaaggaacgagccaaagggatgctgggtatggcgtgacgattgtatgaact
agggaatttaatacaaaaggacgattcgaacgaatacgggaacaaaaacgaattttacaaagccattcaaggcgaacaaagcgtctggcat
cgaaatatacgtgtagtctgtatttaatacaaaagcggggcgatagatgacgaatgggtgacgcagtcgaaagtgaatccttctatcgaacac
aagaanaactatgcacatacaattcaacgatggacaaaatttgaattccctggccgtgggaacatactcaagcttttaattggcagatgatac
attttacggtacggattgggatgaagccgaaactaaatcgtatttacaatttctgtggcacaagaaagcatgggatttgggaatagacaca
gagaacggaaactagactactaatgttctgatttagatagatcacctcgaaagtcgtgacagagctaaaaaactgggaacatggtacgtc

Figure 16 (cont.)

aatac gacaaatgtc gatgggttc gcttagatgc agttaa gcatattaaatagcttctccca gattggttaacacatgtgcgttcacaaacag
aaaaatctttttgca gtagga gaa ttttggagctac gatgtcaataaac tgcatactacataaaaaacagtggaacca tgcgttatttgatg
cgccactcttaacaac tttacactgctctcaaaatctagcgggtattttgacatgcgtatttggtaataatacgttgatgaagaccagccctctct
tgcgttcacactcgtttgataatcatgacacgcaacgggacaatcttacaatcatgggtagagcccttggtttaagccgctgtcttagtgccttattt
gacaagacagaagatatacttgcgtattttacggcgactattaccgcatccttaatacaacattccgggtgataaaagttaaaatc gatccgt
tcica tttgccgtagagactacgacatcggaacacaacgtgattatattgaccatcaagacattatggatggacacgggaaggaattgactca
aaccgaactcgtgacttgcgttttaattactgacggccctgttggaagtaaatggatgtatgtagttaaagacatgcgtgaaaggtttttacg
atctcactggaatcgaagcgataccggtacgattaatgcagacggctgggagagttaaagataaacgttgctcctgtttccatttgggtgcc
aaaacatcaacagtcacgtttaccgcaacaatgcgaacacataagcgggacaaatgtgtatgtcgttggttaacattccagacatcggaattg
gacacagcaaacgcaatcaaaatgaaccactcttctatcaacgtggaaagcaaccactgcttccacaggaagaaagcattgaattaaatt
tattaaaaagaccaatcgggaagattgttttgggaagcattccaaacgaacataccgttccattttatcaacaggctcatatacagctagt
ggaatgatcttaa

SEQ ID NO: 128

Val Cys Met Asn Tyr Leu Lys Lys Val Trp Leu Tyr Tyr Ala Ile Val Ala Thr Leu Ile Ile Tyr Phe
Leu Thr Pro Phe Ser Thr Ala Gln Ala Asn Thr Ala Pro Val Asn Gly Thr Met Met Gln Tyr Phe Glu
Tyr Asp Leu Pro Asn Asp Gly Thr Leu Trp Thr Lys Val Lys Asn Gly Ala Ser Ser Leu Ser Ser Leu
Gly Ile Thr Ala Leu Trp Leu Pro Ala Tyr Lys Gly Thr Lys Gly Asp Val Ser Gly Tyr Leu Gly Thr
Tyr Asp Leu Tyr Asp Leu Gly Glu Phe Asn Gln Lys Gly Thr Ile Arg Thr Lys Tyr Gly Thr Lys Thr
Gln Tyr Leu Gln Ala Ile Gln Ala Ala Lys Ser Ala Gly Met Gln Val Tyr Ala Asp Val Val Phe Asn
His Lys Ala Gly Ala Asp Ser Thr Glu Trp Val Asp Ala Val Glu Val Asn Pro Ser Asn Arg Asn Gln
Glu Thr Ser Gly Thr Tyr Gln Ile Gln Ala Trp Thr Lys Phe Asp Phe Pro Gly Arg Gly Asn Thr Tyr
Ser Ser Phe Lys Trp Arg Trp Tyr His Phe Asp Gly Thr Asp Trp Asp Glu Ser Arg Lys Leu Asn Arg
Ile Tyr Lys Phe Arg Gly Thr Gly Lys Ala Trp Asp Trp Glu Val Asp Thr Glu Asn Gly Asn Tyr Asp
Tyr Leu Met Phe Ala Asp Leu Asp Met Asp His Pro Glu Val Val Thr Glu Leu Lys Asn Tyr Gly
Thr Trp Tyr Val Asn Thr Thr Asn Val Asp Gly Phe Arg Leu Ala Val Lys His Ile Lys Tyr Ser
Phe Phe Pro Asp Trp Leu Thr His Val Arg Ser Gln Thr Arg Lys Asn Leu Phe Ala Val Gly Glu Phe
Trp Ser Tyr Asp Val Asn Lys Leu His Asn Tyr Ile Thr Lys Thr Ser Gly Thr Met Ser Leu Phe Asp
Ala Pro Leu His Asn Asn Phe Tyr Thr Ala Ser Lys Ser Ser Gly Tyr Phe Asp Met Arg Tyr Leu Leu
Asn Asn Thr Leu Met Lys Asp Gln Pro Ser Leu Ala Val Thr Leu Val Asp Asn His Asp Thr Gln
Pro Gly Gln Ser Leu Gln Ser Trp Val Glu Pro Trp Phe Lys Pro Leu Ala Tyr Ala Phe Ile Leu Thr
Arg Gln Glu Gly Tyr Pro Cys Val Phe Tyr Gly Asp Tyr Gly Ile Pro Lys Tyr Asn Ile Pro Gly
Leu Lys Ser Lys Ile Asp Pro Leu Leu Ile Ala Arg Arg Asp Tyr Ala Tyr Gly Thr Gln Arg Asp Tyr
Ile Asp His Gln Asp Ile Ile Gly Trp Thr Arg Glu Gly Ile Asp Ser Lys Pro Asn Ser Gly Leu Ala Ala
Leu Ile Thr Asp Gly Pro Gly Gly Ser Lys Trp Met Tyr Val Gly Lys Lys His Ala Gly Lys Val Phe
Tyr Asp Leu Thr Gly Asn Arg Ser Asp Thr Val Thr Ile Asn Ala Asp Gly Trp Gly Glu Phe Lys Val
Asn Gly Gly Ser Val Ser Ile Trp Val Ala Lys Thr Ser Gln Val Thr Phe Thr Val Thr Thr Thr Thr
Thr Ile Ser Gly Gln Asn Val Tyr Val Val Gly Asn Ile Pro Glu Leu Gly Asn Trp Asn Thr Ala Asn
Ala Ile Lys Met Thr Pro Ser Ser Tyr Pro Thr Trp Lys Ala Thr Ile Ala Leu Pro Gln Gly Lys Ala Ile
Glu Phe Lys Phe Ile Lys Lys Asp Gln Ser Gly Asn Val Val Trp Glu Ser Ile Pro Asn Arg Thr Tyr
Thr Val Pro Phe Leu Ser Thr Gly Ser Tyr Thr Ala Ser Trp Asn Val Pro

SEQ ID NO: 129

ttagcttgcgcgcgtggcagcgagcgggtgttggctggcgccgctaagtcgctccgcgacacccgcgtgaacaaaataatgaattattg
aataagtagtgggggtgtcaagaatgacaaaactcgaagattgcgggttcatggaagatttgggtgctcgtgtgtgtagtgcgtggga
tcttccgcgtccgcgcgtattgatcaaggcttactctgggacgccagtaccgggacagtgatcgtggtggacgattggccaagcaag
ccaacggtctaaacggcggggttccaccgctatggatctcctcgggtcttaaggggcttcagggggtattccaacgggtacgatccctt
tgacgatgatgacggaagcagcagcaaaaggatcactggcgacgcgatgggggacgcgaagaacatgcaacgtgcgtggccgt
gatgcgcggaacggcttggattgtatgttgatctgtgtcctgaaaccacgcgaacgggacgacgggaattggaattttcattacaagatgc
gtacggcaagtggtgtacggcggtttcaaaagggttttaccgaatttccccaactacaacttccagggtgccaattgttcccaacggaggtac

Figure 16 (cont.)

cagcttcgggcgcgatttgcccatgacaatccgatgtggccgatggactgaaggctgcaaggcgattggcgaccaaaagccctc gatgttca
gggatactgctggattacgtgaaaggcatcagctacaccttccgtgaaaagtatctgtcctatggggcccatgaacggaaaatttgcgctgggtga
gtactgggatgccaccgggatacgtgaactggtgggcgaacacggcgatggaaggcggggcccatgtgttgattttgcgctggcgagg
agctgaaaaacatgtgcaatgcggacgggtactacgacatgctgctgattggaccacggcggtctggtgcggaatcgaccctgggaaggcggt
gacgtttgtcgaaaacctgatacgtatcgatcgacagaccocactacataaacaagcaatttgcggtatgctacatcttgcagctcggaagggtatc
cgacgggtgttcggaaggattactaccaatcggaatgaagccgatcatcgacaacctatgttgatccacgaacacattgcgtacggaaagac
ccaaagcgggttggaagaacgaagatgtctttgtgtatgagcgggacgggagcgagcggtatgttgcgttaacgacacatcgccaccaca
gcaaaacgggtacacgtacgaccggcgttgggtccaaactggtggccttgcaagactacacggcaacggcccgatctctgaccagcgctac
ggtcgggttaacctgacattctcgaacgggtatgtggcctatcttcgcttccgggcatctccggaactcttggcggcgagaaaacggcgtag
gcagagatttgcggggcgctccgacttggatctgctcgcccgataacacgcaatttggcgagctggcgggatatacgcgaaggcaacaa
ggcgggttacgcgggaattgtattgggaatgccaaagactggacgacctccacgtcgattctcctagaagtgcgttcgcgttcgggaacgctcatc
acgacaaaacgcgtgacccaattgtctgccacgggtaccgcggttcttcacgcttcgggtacaggatggtactgtttccattccgaagctat
aacacgccttcgacgaaccaagcggcctactgtgtaaggtaacgtatagcgccgcaactgtcttcagtaa

SEQ ID NO: 130

Met Arg Cys Arg Arg Gly Arg Asp Gly Cys Trp Cys Gly Arg Arg Asn Ala Leu Pro Arg His Pro
Arg Glu Gln Asn Asn Met Asn Tyr Leu Asn Arg Met Gly Val Ser Arg Met Thr Lys Ser Arg Glu
Leu Arg Cys Ser Trp Lys Val Phe Val Val Gly Cys Leu Met Gly Trp Met Ala Trp Gly Ser Ser Ala Ser
Ala Gly Val Leu Met Gln Gly Phe Tyr Trp Asp Ala Ser Thr Gly Thr Ser Asp Ser Trp Trp Thr His
Leu Ala Lys Gln Ala Asn Gly Leu Lys Arg Ala Gly Phe Thr Ala Val Trp Ile Pro Pro Val Leu Lys
Gly Ala Ser Gly Gly Tyr Ser Asn Gly Tyr Asp Pro Phe Asp Tyr Asp Ile Gly Ser Lys Asp Gln
Lys Gly Thr Val Ala Thr Arg Trp Gly Thr Arg Glu Glu Leu Gln Arg Ala Val Ala Val Met Arg Ala
Asn Gly Leu Asp Val Tyr Val Asp Leu Val Leu Asn His Arg Asn Gly Asp Asp Gly Asn Trp Asn
Phe His Tyr Lys Asp Ala Tyr Gly Lys Val Gly Tyr Gly Arg Phe Gln Lys Gly Phe Tyr Asp Phe His
Pro Asn Tyr Asn Ile Gln Asp Ala Asn Val Pro Asn Glu Asp Ser Ser Phe Gly Arg Asp Leu Ala His
Asp Asn Pro Tyr Val Ala Asp Gly Leu Lys Ala Ala Gly Asp Trp Leu Thr Lys Ala Leu Asp Val
Gln Gly Tyr Arg Leu Asp Tyr Val Lys Gly Ile Ser Tyr Thr Phe Leu Lys Ser Tyr Leu Ser Tyr Gly
Ala Met Asn Gly Lys Phe Ala Val Gly Glu Tyr Trp Asp Ala Asn Arg Asp Thr Leu Asn Trp Trp
Ala Asn Thr Ala Met Gly Arg Ala His Val Phe Asp Phe Ala Leu Arg Glu Glu Leu Lys Asn
Met Cys Asn Ala Asp Gly Tyr Tyr Asp Met Arg Arg Leu Asp His Ala Gly Leu Val Gly Ile Asp
Pro Trp Lys Ala Val Thr Phe Val Glu Asn His Asp Thr Asp Arg His Asp Pro Ile Tyr Asn Asn Lys
His Leu Ala Tyr Ala Tyr Ile Thr Ser Glu Gly Tyr Pro Thr Val Phe Thr Trp Lys Asp Tyr Gln
Tyr Gly Met Lys Pro Ile Ile Asp Asn Leu Ile Trp Ile His Glu His Ile Ala Tyr Gly Thr Thr Gln Glu
Arg Trp Lys Asp Glu Asp Val Phe Val Tyr Glu Arg Thr Gly Gly Lys Arg Leu Leu Val Gly Leu
Asn Asp Asn Arg Ala Thr Ser Lys Thr Val Thr Val Gln Thr Gly Phe Gly Ala Asn Val Ala Leu His
Asp Tyr Thr Gly Asn Gly Pro Asp Leu Arg Thr Asp Ala Tyr Gly Arg Val Leu Thr Ile Pro Ala
Asn Gly Tyr Val Ala Tyr Ser Val Pro Gly Ile Ser Gly Ser Phe Val Pro Val Glu Lys Thr Val Thr
Gln Glu Phe Ala Gly Ala Ser Asp Leu Asp Ile Arg Pro Ala Asp Asn Thr Gln Phe Val Gln Val Gly
Arg Ile Tyr Ala Lys Ala Asn Lys Pro Val Thr Ala Glu Leu Tyr Trp Asp Ala Lys Asp Trp Thr
Ser Thr Ser Ile Leu Leu Glu Val Arg Ser Ala Ser Gly Thr Leu Ile Thr Lys Thr Lys Val Thr Gln Leu
Ser Ser Gln Gly Thr Arg Val Ser Phe Thr Pro Ser Ala Thr Gly Trp Tyr Val Phe Ser Ile Arg Ser Tyr
Asn Thr Pro Ser Thr Asn Pro Lys Pro Ala Tyr Trp Leu Lys Val Thr Tyr Thr Ala Pro Gln Leu Leu
Gln

SEQ ID NO: 131

atgcgcagctttaccattgccggcgcgctggcggcgcggggcccgacgggctggccgcttgacgtggccaccacggccctgggc
atctcagcggcccaagcccaagatgcaccgcgcacggccttgcctatctgttcgaatggaattggaccgacatcgcgcgagtgccgaga
cctctcggggcccaaggcttcggcggttgaggtgtcggcccgacgaacgacaaactgggtgaccacgggtgatggacacattaccg
tgggtgattgcgtaccagccgttgatgcatacgcctggaccgcagcgcagcggcagcgcgccgagtgtcaggacatgtgtcaaccgatgc
aatgccgttggcgtgggcatctacgtggacccggtgatcaatcaatgtccggcggaacggcgaggccctcgaagcgtggcgacgtgg

Figure 16 (cont.)

agctatcacaaactacctggctctatgcccacgacttccaccagccggtgtgcagatcaccaactacggggatgcgaacaatgtgcag
cggttgcgagctctcggcttgcaggaccgtggacactgggagcgccttatgtgcgcggcaagatgccgactatctgggtatcgttcaacatg
ggggcgaaggccttcgggttgcgttgcggcgaagcactacgccgaccgacctggggcccatatcgtatgcgggtcaacagcgcaccggc
gcgaacgcgcctttctgttcttggaggatgttggcggcggcggaagcagtgccagccgaacagatcttctgctcggcggcgccaggt
caaccgtgacgagttcaacttgggaagcaatcttcggcaagttgcggcggcgcttggccgagctgcgcagcttgcgttgaacctg
gggcctgatgcccagcagaagcgtatgttcttcatcgacaaccagacagcagcgcggctatgctggcggtggcaactatctgacctacc
accatggctcgactgcactgcgccaaacttctcatctggttgccttatggctaccggcgctgatgtccagctatgcttcaaccgcgcg
acggcctacgacacgacttggcccccacacgacagtgtgtggcgccaccgcgtgcccctgggatgtgtggcggaacgacgccgctgc
ttcaaccagagcatcgttggctgggtgtgtgagcaccgctggcgggcgatcgccaatattggtgcttccgcaacgccacgctgcccaactg
gaccgtgaccgactgtgtggacaacggccaacacagatcgttctggcggggtgacaaggccttgcgttgggtgatcaaccgcgaagacg
cgcgctgacgcgcaactcaagaccgctgccagccggccagctactgcatgtatcttccgggacttcaacaatgttcagtgcacgggcc
atgtgtgtgacggtcgtgacggcggtacgtgacgtgacggccggcccaatgtgtgcggcgccatccacgtggggcgccgcttggag
gcgctctgacggcgacgaccgcttgggtgacgttcaacgcgtcggcgacatcttggggacagaaccttctcgttgggaaccaca
gcgcaactgggaactgttcgcccggcgccgacgacgtgacgttgcgttggcgacgcgggaaactggcgcggtgtgtca
atttgcgggccaataccacctaccatgaagtcatcaagaaggacgggctgggaacgtgttgggagggcggtggcaatcgcgtgtga
ccacgcgcttgggggggagatcgttgagcagggcggaattggcagtag

SEQ ID NO: 132

Met Pro Gln Leu Tyr Pro Leu Pro Pro Arg Trp Arg Arg Ala Ala Arg Gln Gly Leu Ala Ala Leu Thr
Leu Ala Thr Thr Ala Leu Gly Ile Ser Thr Ala Gln Ala Gln Ser Ala Pro Arg Thr Ala Phe Val His
Leu Phe Glu Thr Lys Trp Thr Asp Ile Ala Arg Glu Cys Glu Thr Phe Leu Gly Pro Lys Phe Ala
Ala Val Gln Val Ser Pro Pro Asn Glu His Asn Trp Val Thr Ser Gly Asp Gly Ala Pro Tyr Pro Trp
Trp Met Arg Tyr Gln Pro Val Ser Tyr Ser Leu Asp Arg Ser Arg Ser Gly Thr Arg Ala Glu Phe Gln
Asp Met Val Asn Arg Cys Asn Ala Val Gly Val Gly Ile Tyr Val Asp Val Ile Asn His Met Ser
Gly Gly Thr Gly Gly Thr Ser Ser Ala Gly Arg Ser Trp Ser Tyr His Asn Tyr Pro Gly Leu Tyr Gly
Pro Asn Asp Phe His Gln Pro Val Cys Ser Ile Thr Asn Tyr Gly Asp Ala Asn Asn Val Gln Arg Cys
Glu Leu Ser Gly Leu Gln Asp Leu Asp Thr Gly Ser Ala Tyr Val Arg Gly Lys Ile Ala Asp Tyr Leu
Val Asp Leu Val Asn Met Gly Val Lys Gly Phe Arg Val Asp Ala Ala Lys His Ile Ser Pro Thr Asp
Leu Gly Ala Ile Ile Asp Met Gly Val Asn Ser Arg Thr Gly Ala Asn Gln Pro Phe Thr Phe Leu Glu Val
Ile Gly Ala Ala Gly Glu Ala Val Gln Pro Asn Gln Tyr Phe Ser Leu Gly Gly Gly Gln Val Thr Val
Thr Phe Phe Asn Tyr Gly Lys Gln Ile Phe Gly Lys Phe Ala Gly Gly Gly Arg Leu Ala Glu Leu Arg
Ser Phe Gly Glu Thr Thr Gly Leu Met Pro Ser Ser Lys Ala Ile Ala Phe Ile Asp Asn His Asp Lys
Gln Arg Gly His Gly Gly Gly Gly Asn Tyr Leu Thr Tyr His His Gly Ser Thr Tyr Asp Leu Ala Asn
Ile Phe Met Leu Ala Trp Pro Tyr Gly Tyr Pro Ala Leu Met Ser Ser Tyr Ala Phe Asn Arg Ser Thr
Ala Tyr Asp Thr Ser Phe Gly Pro Pro His Asp Ser Gly Gly Ala Thr Arg Gly Pro Thr Asp Gly Gly
Gly Ser Gln Pro Ala Cys Phe Asn Gln Ser Ile Gly Gly Trp Val Cys Glu His Arg Trp Arg Gly Ile
Ala Asn Met Val Ala Phe Arg Asn Ala Thr Leu Pro Asn Thr Thr Val Thr Asp Trp Asp Asn
Gly Asn Asn Gln Ile Ala Phe Gly Arg Gly Asp Lys Gly Phe Val Val Ile Asn Arg Glu Asp Ala Ala
Leu Thr Arg Asn Phe Lys Thr Ser Leu Pro Ala Gly Gln Tyr Cys Asp Val Ile Ser Gly Asp Phe Asn
Asn Gln Cys Thr Gly His Gly Val Val Thr Val Asp Ala Gly Lys Gly Tyr Val Thr Leu Thr Ala Gly Pro
Asn Gly Ala Ala Ala Ile His Val Gly Ala Arg Leu Asp Gly Ala Ser Gln Pro Pro Thr Thr Ala Ser
Val Thr Phe Asn Ala Ser Ala Asp Thr Phe Trp Gly Gln Asn Leu Phe Val Val Gly Asn His Ser Ala
Leu Gly Asn Trp Ser Pro Ala Ala Ala Arg Pro Met Thr Thr Ile Ser Gly Ser Gly Thr Arg Gly Asn
Trp Arg Ala Val Leu Asn Leu Pro Ala Asn Thr Thr Tyr Gln Tyr Lys Phe Ile Lys Lys Asp Gly Ala
Gly Asn Val Val Trp Glu Gly Gly Gly Asn Arg Val Val Thr Thr Pro Ser Gly Gly Gly Ser Val Ser
Thr Gly Gly Asn Trp Gln

SEQ ID NO: 133

atgaataatgtgaaaaagatgtgtgtattattctataattgtaccttagttattcttcttcaacctttttcaacagcagaactaactgcacctg
tcaacggacaatgatgcaatttgcgaattggattaccgaatgatggagcgtttggacgaagataaaaaatgaactccaactcttcttgcgt

Figure 16 (cont.)

aggattattacagcgttatggctccctccagcatataaagggaacgagccaaagcggatgctggatatgcgtgtacgatttatgaccttgggggaatt
taatacaaaaaggagcatccgaacgaataacggaacaaaagcacaatatattcaagccatcaagctgccaaagccgaggggatgcaagtat
atgcagatgttgatttaatacaaaagcgggggctgacggcacagaattgtcgaatgaggttaaaccccttctaatacgaatacaagaacat
ctggccacatatacaaatcaagcatggacaaaattgtttctcgtctgaggaaacacatactccagcttcaaatggcgtgttatctttttagcgg
accgattgggatgaagtcgtaaattaaatcgtatttacaataatccggcgtacaggaagcgtgggacgtgggaatgcgtacagaaacggga
aactatgattatttaattgtcgtgatttagataggaicaccctgaagttgtgacagagttaaanaaacctggggaaaatggatgttaafacgacaaa
tgtacagcggatttgcgtttgagtcgtgtaaacatataataacagcttttccctgactggcgttaacataatgtacgtaatacaaacaggaaaatttattt
gctgttggggaattttggagctatgacgtcaataagctgcataactacattacaanaaacaaatggatcgaatgctgtattttagtcacctttgcataa
caacttttatacgttccaatacgaatggatatttgcacatcgttatttattgaataatacatattgaagatcaacctttacactcgtgtataactgtt
cgataaacatgatacaaacacaggcttcaacttttacaatcatgggtagaagctgtgtttaaaccgctgttactacgctttattttaaacaagacaag
gggtatccttgcgtatttaccggtgactattacggatcccgaaatacaatatctcgggattaaaagtaaaatgatccgctttattgtctgcgtcgt
gattatgcttattggaacacacggtgattacattgatcatcaagacattatcggatggacacagagaagcattgatgcaaaacgaactctggactt
cggcctttaaattaccgacggccctggcgggaagtaattggatgtatgctggtaaaaacatcgtgggaaggttttattgatttaactgaaatcga
agtacacagatgaatgacggacgggttggggagaatttaaagtaaacggcggcctcgttctgatttgggtgctgaaacatcaaacgtca
actttacatgataaatacggccaacaacagatggacaaaacgtatatgtgttggaacattccagacgtaggcaactctttg

SEQ ID NO: 134

Met Asn Asn Val Lys Lys Val Trp Leu Tyr Tyr Ser Ile Ile Ala Thr Leu Val Ile Ser Phe Phe Thr Pro
Phe Ser Thr Ala Gln Ala Asn Thr Ala Pro Val Asn Gly Thr Met Met Gln Tyr Phe Glu Trp Asp Leu
Pro Asn Asp Gly Thr Leu Trp Thr Lys Val Lys Asn Glu Ala Thr Asn Leu Ser Ser Leu Gly Ile Thr
Ala Leu Trp Leu Pro Pro Ala Tyr Lys Gly Thr Ser Gln Ser Asp Val Gly Tyr Gly Val Tyr Asp Leu
Tyr Asp Leu Gly Glu Phe Asn Gln Lys Gly Thr Ile Arg Thr Lys Tyr Gly Thr Lys Ala Gln Tyr Ile
Gln Ala Ile Gln Ala Phe Lys Ala Ala Gly Met Gln Val Tyr Ala Asp Val Phe Asn His Lys Ala
Gly Ala Asp Gly Thr Glu Phe Val Asp Ala Val Glu Val Asn Pro Ser Asn Arg Asn Gln Thr Ser
Gly Thr Tyr Gln Ile Gln Ala Trp Thr Lys Phe Asp Phe Pro Gly Arg Gly Asn Thr Tyr Ser Phe
Lys Trp Arg Trp Tyr Thr His Phe Asp Gly Thr Asp Trp Asp Glu Ser Lys Leu Asn Arg Ile Tyr Lys
Phe Arg Gly Thr Gly Lys Ala Trp Asp Trp Glu Val Asp Thr Glu Asn Gly Asn Tyr Asp Tyr Leu
Met Phe Ala Asp Leu Asp Met Asp His Pro Glu Val Val Thr Glu Leu Lys Tyr Trp Gly Lys Trp
Tyr Val Asn Thr Thr Asn Val Asp Gly Phe Arg Leu Asp Ala Thr Lys His Ile Lys Tyr Ser Phe Phe
Pro Asp Trp Leu Thr Tyr Val Arg Asn Gln Thr Gly Lys Asn Leu Phe Ala Val Gly Glu Phe Trp Ser
Tyr Asp Val Asn Lys Leu His Asn Tyr Ile Thr Lys Thr Asn Gly Ser Met Ser Leu Phe Asp Ala Pro
Leu His Asn Asn Phe Tyr Ile Ala Ser Lys Ser Ser Gly Tyr Phe Ser Met Arg Tyr Leu Leu Asn Asn
Thr Leu Met Lys Asp Gln Pro Ser Leu Ala Val Thr Leu Val Asp Asn His Asp Thr Gln Pro Gly Gln
Ser Leu Gln Ser Trp Val Glu Ala Trp Phe Lys Pro Leu Ala Tyr Ala Thr Phe Ile Leu Thr Arg Gln Glu
Gly Tyr Pro Cys Val Phe Tyr Gly Asp Tyr Tyr Gly Ile Pro Lys Tyr Asn Ile Pro Gly Leu Lys Ser
Lys Ile Asp Pro Leu Leu Ile Ala Arg Asp Tyr Ala Tyr Gly Thr Gln Arg Asp Tyr Ile Asp His
Gln Asp Ile Ile Gly Trp Thr Arg Glu Gly Ile Asp Ala Lys Pro Asn Ser Gly Leu Ala Leu Ile Thr
Asp Gly Pro Gly Gly Ser Lys Trp Met Tyr Val Gly Lys Lys His Ala Gly Lys Val Phe Tyr Asp Leu
Thr Gly Asn Arg Ser Asp Thr Val Thr Ile Asn Ala Asp Gly Trp Gly Glu Phe Lys Val Asn Gly Gly
Ser Val Ser Trp Val Ala Lys Thr Ser Asn Val Thr Phe Val Asn Asn Ala Thr Thr Thr Ser
Gly Gln Asn Val Tyr Val Val Gly Asn Ile Pro Glu Leu Gly Asn Ser Leu

SEQ ID NO: 135

gtgacagggcaccctcgtctttatcatctctccacataaaaataaccatacagctttcaaaattgttgaattgataaaataaaaaataatgatttgaagc
gttaacatccgtcaattataatacttcaaacggctttatgttttaagcaaacgtttgcaatcttttaattaaagaagggatgtgtgcatgaattat
tgaanaaaagtgtggttgattacgctactgctgctacttaattcttcttctacgcccttttcaactgcacaagccaacactgcaccagtcaacg
gaacgatgatgacataattcgaatgggatttaccgaatgatggcacactttggacgaaagtaaaaaaacgaagcaagcagccttcttcttggat
tactgtgttgcttaccacgtcatatacaaaaggaacgagccaaaggatgctgggtatggcgtgtacgattgtgtacttaggagaatttaac
aaaaggagcattcgaacgaatacggacaanaaacgcaattttacaagccattcaagcggcgaanaagcgtggcatcgaatgatacgtg
atgctgatttatacacaagcggggggcagatgacagaatgggtgacgcagctggaatgtaactcttcaatgaacacaagaacatcttgg

Figure 16 (cont.)

cacatatacaaaatcaagc atggacaaaatttgatttccctgaccgtgggaacacatactcaagcctttaaattggcgtgtatcatfittgacggtagc
gattgggagtaaaagtgaaaactaaatcgcatttcaaaatttcgtggcacaggaaaagc atgggattgggaaagttagacacagagaacggaaac
tatgactacttaattgtttgctgattgatatggatcacccctgaagtcgtgacagagctaaaaaaactggggaacatggtagcctaafacgacaaaatg
tcgattgggttcgcttagatgcagctaaagcatalttaataatagcttttccagattgggttaacatatgtgcgctcacaacacaaaaaatctgtttg
cagtaggagaatttggagcctacgatgtcaataaactgcataactacattacaaaaaaagtggaacattctgtctattttagtcggccactcataa
caacttttaccatgcttcaaaactagcgggtattttgacatgcgcattttgtaataataactgtgatgaagaccagcccttcttctggcgcacac
gttgataatcatgacacgcaacccgggacaacttllacaatcatgggtagagccttgggttaagccgcttctttagccttatttttgacaagacaaga
aggatattccttgcgtattttacggcgactattacggcatccccaataacaatttccgggattgaaaagttaaaactgatccgctctcatttcccgtga
gagactacgatacgggaacacacatgattattatgacatcaagacattatttggatggacacggggaaggatgatcaaaaacgaactctgg
acttgcgctttaaactagcggctcgtgggtgaagtaaatggatgtatgtaggttaaaaagcagctgcgaaagtggttttaccgatctcactggaat
cgaagcgatacggtaacgattaatgcagacgcgtcgggagagittaaagtaaacgtgtgcctccttccatttgggtgccaacacatcaaga
tcacgtttaccgtcaaacatgcgacaacgacaagcgggacaaaatgtgtatgtcgttggcaacattccagagctcggaaattggaacacagcaaa
cgcaatcaaaatgaccacatcttatttaccacgtgggaaaacacattgctcttccacaaggaaaagcaattggcggcgtagccatgcccctt
ga

SEQ ID NO: 136

Val Thr Gly Thr Pro Ser Leu Tyr Ile Pro Pro His Lys Ile Thr Ile Gln Leu Ser Asn Leu Leu Lys Cys
Ile Lys Ile Lys Asn Ser Ile Val Ser Val Asn Ile Arg His Tyr Asn Asn Phe Lys Arg Val Tyr Val Leu
Met Gln Thr Phe Ala Ser Ser Phe Tyr Leu Lys Lys Gly Cys Val Cys Met Asn Tyr Leu Lys Lys Val
Trp Leu Tyr Tyr Ala Ile Val Ala Thr Leu Ile Ile Ser Phe Leu Thr Pro Phe Ser Thr Ala Gln Ala Asn
Thr Ala Pro Val Asn Gly Thr Met Met Gln Tyr Phe Glu Trp Asp Leu Pro Asn Asp Gly Thr Leu
Trp Thr Lys Val Lys Asn Glu Ala Ser Ser Leu Ser Ser Leu Gly Ile Thr Ala Leu Trp Leu Pro Pro
Ala Tyr Lys Gly Thr Ser Gln Gly Asp Val Gly Tyr Gly Val Tyr Asp Leu Tyr Asp Leu Gly Glu Phe
Asn Gln Lys Gly Thr Ile Arg Thr Lys Tyr Gly Thr Lys Thr Gln Tyr Leu Gln Ala Ile Gln Ala Ala
Lys Ser Ala Gly Met Gln Val Tyr Ala Asp Val Val Phe Asn His Lys Ala Gly Ala Asp Ser Thr Glu
Trp Val Asp Ala Val Glu Val Asn Pro Ser Asn Arg Asn Gln Glu Thr Ser Gly Thr Tyr Gln Ile Gln
Ala Trp Thr Lys Phe Asp Phe Pro Asp Arg Gly Asn Thr Tyr Ser Ser Phe Lys Trp Arg Trp Tyr His
Phe Asp Gly Thr Asp Trp Asp Glu Ser Arg Lys Leu Asn Arg Ile Tyr Lys Phe Arg Gly Thr Gly Lys
Ala Trp Asp Trp Glu Val Asp Thr Glu Asn Gly Asn Tyr Asp Tyr Leu Met Phe Ala Asp Leu Asp Lys
Met Asp His Pro Glu Val Val Thr Glu Leu Lys Asn Trp Gly Thr Trp Tyr Val Asn Thr Thr Asn Val
Asp Gly Phe Arg Leu Asp Ala Val Lys His Ile Lys Tyr Ser Phe Phe Pro Asp Trp Leu Thr Tyr Val
Arg Ser Gln Thr Gln Lys Asn Leu Phe Ala Val Gly Glu Phe Thr Tyr Ser Tyr Asp Trp Asn Lys Leu His
Asn Tyr Ile Thr Lys Thr Ser Gly Thr Met Ser Leu Phe Asp Ala Pro Leu His Asn Asn Phe Tyr Thr
Ala Ser Lys Ser Ser Gly Tyr Phe Asp Met Arg Tyr Leu Leu Asn Asn Thr Leu Met Lys Asp Gln
Pro Ser Leu Ala Val Thr Leu Val Asp Asn His Asp Thr Gln Pro Gly Gln Ser Leu Gln Ser Trp Val
Glu Pro Trp Phe Lys Pro Leu Ala Tyr Ala Phe Ile Leu Thr Arg Gln Glu Gly Tyr Pro Cys Val Phe
Tyr Gly Asp Tyr Tyr Gly Ile Pro Lys Tyr Asn Ile Pro Gly Leu Lys Ser Lys Ile Thr Asp Leu Leu Ile
Ala Arg Arg Asp Tyr Ala Tyr Gly Thr Gln Arg Asp Tyr Ile Asp His Gln Asp Ile Ile Gly Trp Thr
Arg Glu Gly Ile Asp Ser Lys Pro Asn Ser Gly Leu Ala Ala Leu Ile Thr Asp Gly Pro Gly Gly Ser
Lys Trp Met Tyr Val Gly Lys His Ala Gly Lys Val Phe Tyr Asp Leu Thr Gly Asn Arg Ser Asp
Thr Val Thr Ile Asn Ala Asp Gly Trp Gly Glu Phe Lys Val Asn Gly Gly Ser Val Ser Ile Trp Val
Ala Lys Thr Ser Gln Val Thr Phe Thr Val Asn Asn Ala Thr Thr Thr Ser Gly Gln Asn Val Tyr Val
Val Gly Asn Ile Pro Glu Leu Gly Asn Trp Asn Thr Ala Asn Ala Ile Lys Met Thr Pro Ser Ser Tyr
Pro Thr Lys Thr Thr Ile Ala Leu Pro Gln Gly Lys Ala Ile Gly Gly Val Arg His Gly Pro

SEQ ID NO: 137

gtggagcgggagcgttggcgcatactcgaacacttccgccaaaggagacataggggtcacctctcgaactcgttcgggagtcgcccgccgt
ggcggggcggtgcgacttgaagatgtccagcggggagccgccgccgagatcaccccgccggcgtaactcggccaggcgggcgctcag
cttgaagcctgtggccggagccgcctccacgagccagacgttggaggcccgccggtatggcgagagaggtggccgtcggcggtgt
tctctactggcagacgcgggtctcgaccacggcgcgtctctcaggccgggaaccggcgggccacctcggccggcgcttccaga

Figure 16 (cont.)

ggggccggggtgatcgtccgctgccgccgtgggagtcgatgggctgccccgggtgtcgtccgccacctgaaagccgccgggtgtcgtgtgcc
ggggatgccgtatgatcgtccgctgccgagatcgaccagaccggacagccgccctctctgaaagccgggggtcgtccggcggtgtcgtccga
agaagaacacctctcgtccgggtgtcggaggaccgctaccgatcgtccgggaacagccggccagccaaggagccgagggcggaag
acgtagaggtgtccgccggagagtggaagcgtccgaaaggtgaagccgctccaaaggcccccgggaccatggcgccgtcgtccgtactcccc
gccctcgccttggaaacagctccaccacggctccggcaggccgccggggcgaacaaggcgccggttctctctgtaccagatcgtcgggac
gccgtcgaatactgacctgggggaagcgtccggccctcccttgagacagctggcgaccggagcccccgtctctcagaaaaagaa
ggggatgcggcgagctagctgtcgtcctcggcgacatccagaggacccggctctttgtacagccggtaaccggagctgactcgggtcc
ggcagagctcgaaggagcggcgaccactccacgtacagacgtcgggtcgtatggcgccgcggtatcgcgtcgtccaccggag
ctggagcgggagtgccccggagcccgagcgtccagggaggtcaccgggtcctccggcgggagggagatgcaaggcggtccacggccgcg
aaggcggcgccggcagcagcgcgatagtggggatggggagggcagtgccggcgtaagggtatctcagagccgatctcgtcggtacatccat
ctccgaccggagtatctctgaaatttcgaagaggagatcgacatgcaatcgaacggaaacgtga

SEQ ID NO: 138

Val Gly Arg Ala Gly Leu Ala His His Ser Asn Thr Ser Ala Lys Gly Thr Tyr Gly Ser Pro Leu Gly
Leu Asp Pro Asp Arg Pro Ala Val Ala Gly Ala Val Glu Leu Asp Val Gln Arg Gly Ala Ala Glu
Glu Asp His Pro Gly Gly Val Leu Ala Gln Gly Gly Ala Gln Leu Glu Ala Val Ala Gly Ala Ala Ser
Gln Glu Pro Asp Val Gly Gly Pro Arg Met Ala Val Glu Glu Glu Val Ala Val Gly Ala Val Leu Val
Leu Ala Asp Ala Gly Leu Asp Gln Arg Arg Val Leu Gln Gly Arg Glu Pro Ala Gly His Leu Gly
Pro Gly Arg Phe Gln Gln Gly Arg Gly Asp Arg Pro Leu Ala Arg Arg Gly Ile Asp Gly Leu Ala Pro
Gly Val Val Arg His Leu Glu Ala Ala Val Leu Val Ala Gly Asp Ala Val Val Asp Pro Leu Ala Glu
Ile Asp Pro Asp Arg Thr Ala Ala Leu Leu Glu Ala Arg Val Ala Arg Val Ala Glu Glu Glu His
Leu Leu Ala Gly Val Ala Glu Glu Pro Leu Thr Asp His Val Arg Glu Gln Pro Gly Gln Pro Gly Thr
Ala Gly Glu Asp Val Glu Val Gly Arg Glu Ser Gly Ala Val Arg Lys Val Lys Pro Leu Gln Gly Pro
Arg Asp His Gly Gly Leu Pro Val Leu Pro Leu Ala Leu Glu Gln Leu His His Gly Pro Ala Gly
Ala Pro Gly Glu Gln Gly Ala Gly Phe Leu Leu Val Pro Asp Arg Ala Asp Ala Val Glu Ile Asp Leu
Gly Glu Ala Ala Pro Gly Leu Pro Leu Arg Gln Leu Gly Asp Arg Gln Pro Arg Val Leu Gln Lys
Arg Lys Gly Val Ala Asp Val Ala Val Val Leu Ala Ala His Pro Glu Asp Pro Gly Pro Phe Val Gln
Pro Val Thr Gly Ser Leu Asp Phe Gly Val Pro Pro Glu Leu Glu Gly Ala Gly Asp Pro Leu His Val Gln
Thr Val Gly Ser Val Gly Gly Ala Ala Asp Asp Pro Arg Leu Ala Thr Gly Ala Gly Val Pro Arg
Thr Pro Gly Val Gln Glu Gly His Pro Gly Ser Ala Ala Glu Glu Met Gln Gly Gly Pro Ala Ala Glu
Gly Ala Gly Ala Asp Asp Gly Asp Met Gly Met Gly Gly His Gly Gly Arg Lys Val Ile Ala Arg
Ser Phe Ala Gly Ile Pro Ser Pro Thr Gly Val Ser Trp Lys Ile Arg Arg Arg Ser Thr Cys Asn
Arg Thr Glu Thr

SEQ ID NO: 139

atgaaaacattcaacctaaaccacatttactcttaactttgctgctgagtcgccgggtattggcggaacaaatggaactatgatgcagtatttc
cattgtgatgtgccaaatggcggcgactctgtggacacaagtgaaacaaatgcggcagcactatccgacaacgggtttacagcggtgtgtggtg
caccagcatataaaggcgaggtgtgtagcaacgactgtggttacgggtgttaccatgatgatgacttactggggaggttgatcaaaaaggatcggtg
cgaactaagtagcggcaccaaagacacatatcaatgccatcaaaagcagcacacaaaaacaatccaatttatgtgacgtagtggttaaccaa
tcgtgcgtgtgcagatggcgaagctgtgtgtgcataccaagcgtgtggatggaataaccgcgaatatgtgaacttggcgataaatgattgaagca
tgggtgtaattgacttccagagcgtaacgataaatactcagacttccattggacgtgggtactactttgatggcgctgattgggatgacgcaggta
aagaaagcgatcttaataatcaaaagtgatgtaaaagcatgggattgggaagtcagttctgaaaaaggcaactatgactaccatctgatccga
cagttacagctggatccaccagaagtgagcaagagctgaagattgggtgaatgggtacttaaacatgacgggtgttgatggcttccgaatgg
atgcagttgaacacatacaaatcagttaccataagagtgatgcattacttgcgtgaagaaacggcgcaagagctcttaccgtgtgtgtagtag
tgggaactcagcgtgaacaactctgcacaaactttgactaagacttctggcagcatgtcattgttggatggcctttacatgtaacttataacgct
tcacgtcgtgtggcaactttgatcgtgccgaatcggatggcacttgaagaaagacaacccagtgaaagcaatacactgtgtgagaacc
atgatacgaacacacatacggccttagatgtcgtgtggtgattgttcaaacactctgtacgctgtcattttctgtgaggaaggttatcc
gtcagcttctacgagataactacggtgtgcgaatacagcgataaaggcgacgatacaacatgctgataagctccttaccattgagcaattgggtga
aagcgcgtaaagattatgcttatgtaaaacacattcttaccctgaccactgggtgtgattggttgacacgagaagggatgcggaacatccg

Figure 16 (cont.)

aactctatggcgggtatcatgagtgatggctcctggcggacaagtgatgtacacaggttcaccgagcacacgttatgtcgaataactgggtatt
cgtaccgaagaagtatgactaacgtatggatggccgaatcccgatgaacggcgatcggtttctgtttgggtggcggttaataa

SEQ ID NO: 140

Met Lys Thr Phe Asn Leu Lys Pro Thr Leu Leu Pro Leu Thr Leu Leu Ser Ser Pro Val Leu Ala
Ala Gln Asn Gly Thr Met Met Gln Tyr Phe His Trp Tyr Val Pro Asn Asp Gly Ala Leu Pro Thr Gln
Val Glu Asn Asn Ala Pro Ala Leu Ser Asp Asn Gly Phe Thr Ala Leu Trp Leu Pro Ala Tyr Lys
Gly Ala Gly Gly Ser Asn Asp Val Gly Tyr Gly Val Tyr Asp Met Tyr Asp Leu Gly Glu Phe Asp
Gln Lys Gly Ser Val Arg Thr Lys Tyr Gly Thr Lys Asp Gln Tyr Leu Asn Ala Ile Lys Ala Ala His
Lys Asn Asn Ile Gln Ile Tyr Gly Asp Val Val Phe Asn His Arg Gly Gly Ala Asp Gly Lys Ser Trp
Val Asp Thr Lys Arg Val Asp Trp Asn Asn Arg Asn Ile Glu Leu Gly Asp Lys Trp Ile Glu Ala Trp
Val Glu Phe Ser Phe Pro Gly Arg Asn Asp Lys Tyr Ser Asp Phe His Trp Thr Trp Tyr His Phe Asp
Gly Val Asp Trp Asp Ala Gly Lys Glu Lys Ala Ile Phe Lys Phe Lys Gly Asp Gly Lys Ala Trp
Asp Trp Glu Val Ser Ser Glu Lys Gly Asn Tyr Asp Tyr Leu Met Tyr Ala Asp Leu Asp Met Asp
His Pro Glu Val Lys Gln Glu Leu Lys Asp Trp Gly Glu Trp Tyr Leu Asn Met Thr Gly Val Asp Gly
Phe Arg Met Asp Ala Val Lys His Ile Lys Tyr Gln Tyr Leu Gln Glu Trp Ile Asp Tyr Leu Arg Lys
Lys Thr Gly Lys Glu Leu Phe Thr Val Gly Gly Trp Trp Asn Tyr Asp Val Asn Asn Leu His Asn
Phe Met Thr Lys Thr Ser Gly Ser Met Ser Leu Phe Asp Ala Pro Leu His Met Asn Phe Tyr Asn Ala
Ser Arg Ser Gly Gly Asn Phe Asp Met Arg Arg Ile Met Asp Gly Thr Leu Met Lys Asp Asn Pro
Val Lys Ala Val Thr Leu Val Glu Asn His Asp Thr Gln Pro Leu Gln Ala Leu Glu Ser Pro Val Asp
Trp Trp Phe Lys Pro Leu Ala Tyr Ala Phe Ile Leu Leu Arg Glu Glu Gly Tyr Pro Ser Val Phe Tyr
Ala Asp Tyr Tyr Gly Ala Gln Tyr Ser Asp Lys Gly His Asp Ile Asn Met Val Lys Val Pro Tyr Ile
Glu Gln Leu Val Lys Ala Arg Lys Asp Tyr Ala Tyr Gly Lys Gln His Ser Tyr Leu Asp His Trp Asp
Val Ile Gly Trp Thr Arg Glu Gly Asp Ala Glu His Pro Asn Ser Met Ala Val Ile Met Ser Asp Gly
Pro Gly Gly Thr Lys Trp Met Tyr Thr Gly Ser Pro Ser Thr Arg Tyr Val Asp Lys Leu Gly Ile Arg
Thr Glu Glu Val Trp Thr Asn Ala Ser Gly Trp Ala Glu Phe Pro Val Asn Gly Gly Ser Val Ser Val
Trp Val Gly Val Lys

SEQ ID NO: 141

atgaaccaataaataccctactcatatccgccctgtgtgtgtgtttccttcacgtccgcgaattacgccgatactattttgcacggttcaattggaagt
atcca gatgtgacggccaacgcgaataaattgctcaagctggtttaagaagtgctgtgtgctgcgcaatgaaactgagtgccagccaattg
tgggctcgtcatcaacctcaagatctacgcactatcgaattctccttgggcaataaacaagaattagccgcaatgattgcgcactcaaaagtgtg
ggcgtcgaagtgtatgccgagtgtgactcaaccatatggcgaatgaagctggaagcgaagtgacttgtaattaccctggcacaagaagtgtcaa
acgattatgctagccgttcaagctactatgctgaccagactctgttggcaacctagcaacaagttatgtgtcagcgaacgactttcatccaagg
gctgtatttcagattggaaacgacctgttcagtgtgctgattggcgttattgtgtggcgcagatgtgagttaggtttacgacttgcacttgcacaaacac
tgggtgtttccacacacgcgtgttatctgaaagcgcataaagataatggcgatcaaaaggggtccgaattgatgcagtgaaacacatgacgcaata
ccaatgcagtaggtatttcagctcgaattactgcgaacatgcattgtgttggtaggtgattactacgctgggaagcaggaaatagcggcgtatg
aatgttcttagcgccttacctgaataatactactcgtcctcagatttcccgctgttgcacgtatcgtcggcacttttactggggggcggtt
aaatcaactgatgatccaaagctacggcgaactgtatgataatcgctcgtacacactttgcgatacacatgatattccaaacaaatgacgg
cttcctgactaccaaaattatgacccacaaagcagacagcttgcctacgcgtatatccttgtaaaagcgggtggcgcgcgcgtgactactacagtatg
atctcctgattcttgaaacaaaggataacggctgttggggcaatgtttggaacaggttcgacaatgaaaaacatgtttgcttcataacgcgatgc
aaggcaaaaaatgacgagtattttagcgaactgtcactgttgggttaaagcgtggcgaaggaagggtgttgggtattaaacagtggtgtgaa
cgcgtggcgtgacgggtgataccaccaactgatttaattggcattgtaatacaaaagacgtgttaaagcagcgcacacagaacccgtgacttct
cgttaccatcagtccaatctaccaccacgactgcgctatgtttaagctgtag

SEQ ID NO: 142

Met Lys Pro Ile Asn Thr Leu Leu Ile Ser Ala Leu Ala Val Cys Ser Phe Ser Ser Ala Thr Tyr Ala
Asp Thr Ile Leu His Ala Phe Asn Thr Lys Tyr Ser Asp Val Thr Ala Asn Ala Asn Gln Ile Ala Gln
Ala Gly Tyr Lys Lys Val Leu Val Ala Pro Ala Met Lys Ser Ser Gly Ser Gln Trp Trp Ala Arg Tyr
Gln Pro Gln Asp Leu Arg Thr Ile Asp Ser Pro Leu Gly Asn Lys Gln Asp Leu Ala Ala Met Ile Ala

Figure 16 (cont.)

Ala Leu Lys Gly Val Gly Val Asp Val Tyr Ala Asp Val Val Leu Asn His Met Ala Asn Glu Ser Trp
Lys Arg Ser Asp Leu Asn Tyr Pro Gly Thr Glu Val Leu Asn Asp Tyr Ala Ser Arg Ser Ser Tyr Gly
Ala Asp Gln Thr Leu Phe Gly Asn Leu Ala Gln Gly Tyr Val Ser Ala Asn Asp Phe His Pro Ala Gly
Cys Ile Ser Asp Trp Asn Asp Pro Gly His Val Gln Tyr Trp Arg Leu Cys Gly Ala Asp Gly Asp Val
Gly Leu Pro Asp Leu Asp Pro Asn Asn Trp Val Val Ser Gln Gln Arg Leu Tyr Leu Lys Ala Leu
Lys Asp Met Gly Ile Lys Gly Phe Arg Ile Asp Ala Val Lys His Met Ser Gln Tyr Gln Ile Asp Gln
Val Phe Thr Ser Glu Ile Thr Ala Asn Met His Val Phe Gly Glu Val Ile Thr Ser Gly Gly Ala Gly
Asn Ser Gly Tyr Glu Ser Phe Leu Ala Pro Tyr Leu Asn Asn Thr Asn His Ser Ala Tyr Asp Phe Pro
Leu Phe Ala Ser Ile Arg Ser Ala Phe Ser Met Gly Gly Leu Asn Gln Leu His Asp Pro Lys Ala
Tyr Gly Gln Ala Leu Asp Asn Asp Arg Ser Ile Thr Phe Ala Ile Thr His Asp Ile Pro Thr Asn Asp
Gly Phe Arg Tyr Gln Ile Met Asp Pro Gln Asp Glu Gln Leu Ala Tyr Ala Tyr Ile Leu Gly Lys Asp
Gly Gly Thr Pro Leu Ile Tyr Ser Asp Asp Leu Pro Asp Ser Glu Asp Lys Asp Asn Gly Arg Trp Gly
Asn Val Tyr Asn Ser Ser Thr Met Lys Asn Met Leu Ser Phe His Asn Ala Met Gln Gly Lys Thr
Met Thr Met Ile Ser Ser Asp His Cys Thr Leu Leu Phe Lys Arg Gly Lys Gly Val Val Gly Ile
Asn Lys Cys Gly Glu Thr Arg Gly Val Thr Val Asp Thr Tyr Gln His Glu Phe Asn Trp His Val Gln
Tyr Lys Asp Val Leu Ser Ser Ala Thr Glu Thr Val Thr Ser Arg Tyr His Thr Phe Asn Leu Pro Pro
Arg Ser Ala Arg Met Phe Lys Leu

SEO ID NO: 143

ATGCTGATTCG:145
atgcagaagacacactttttaccaaatccatacaaaaatcactctctgtcattccgcttggttgatacgttatgtcctgctcagcaacagggccgcacatac
cttgcagctctttacatggaaatcacgacgacattaccgcgcgaagcacatgagcttgccgaagctgtgtatlaaaaagaatgctgtttaccgcgcgcgc
gtatgtccacacggccccaatggtgtggcgatctgtccaaacacagcagacattgaggtgtgctccctctgtggcgcaacaaagcagatttacaac
ccctcattgcagctctaaagcagacggcggttgaagtatacgcagacatcgctactacacccatctgccaacgaaagcttggaacgagacgac
tgaactcccggtgagagtgattacttactccaaatcacgacgaaaatgtgcttcatgatcaagccaaaaaattgttggagaggtttlagaacaaaatgctg
ctctcccaatgttttaccgcgcggtgctgtcacttaactgttggatgataccggcggtgtcattcaactgctgtatgctgctgtgtgttggtgtaagtgtgacat
gggtgtcctatcttgatcctaactcgtgggtgtatcgalcaacaaaacggtatttactgctgttgaaagacatgggaataaagggtcccgagtggt
atgctgtataaaacatgatgctatcaacaaatcttccagctgtgtgcgcagacatctcagcgcttcatatggtattgttgtagatgataccagctg
gtgcgaaggcgacgaatgacacacactcttttctggaaacgtattttaaataccaaatcaacgcgcgtgtgattcttgcctgctgtgctgtgctctatc
aaatgctattgtatcatggcagctgtcttcaattacatgatccacaagcttaccgggcaagcacttctcaacgacagagcattatcttccacatca
ctcagacgaataccaagatggtgttcttcgtccaaatcatctgacacacacggtgacacacgctgcagctgacattcttgcgaagatggaaatg
gtatgcgcacttacttcatgagctgtttagaccacatgaaagataaagatgaaggccgcgtggctgtgattgatgtgaaccaaagataagctgtttaa
catgatacgtctccacaacaagggtgcaagggttaaaagcatggaggctcatgacagcgtacatgctgtgtctgtcttaccgtgtgaaaacaaggct
tagctgttataataagctgtgtgaagcgcgtactcaacatagatccatctgttttgatattacgtgtacacacggtacacacgacacatgaag
cagcagacacgacgtctgttagacgcgttatctgtctgacatcttcgcgcgaacacacgcaatggtggcgctataa

SEO ID NO: 144

Met Pro Lys Ser Thr Phe Thr Lys Ser Ile Thr Lys Ser Leu Leu Ala Thr Ser Val Val Val Ser Leu
Leu Pro Ala Tyr Ala Gln Ala Asp Thr Ile Leu His Ala Phe Asn Trp Lys Tyr Ser Asp Ile Thr Arg
Gln Ala Gln Gln Ile Ala Gln Ala Gln Tyr Lys Lys Val Leu Ile Ser Pro Pro Lys Ser Thr Gly Pro
Gln Trp Trp Ala Arg Tyr Gln Pro Gln Asp Ile Arg Val Ile Asp Ser Pro Val Gly Asn Lys Gln Asp
Leu Gln Ala Leu Ile Ala Ala Leu Lys Ala Gln Gly Val Glu Val Tyr Ala Asp Ile Val Leu Asn His
Met Ala Asn Glu Ser Trp Lys Arg Asp Asp Leu Asn Tyr Pro Gly Ser Asp Leu Leu Thr Gln Tyr Ser
Gln Asn Met Ala Tyr Met Asn Gln Gln Lys Leu Phe Gly Asp Leu Glu Asn Gln Phe Ser Ala
Asn Asp Phe His Pro Ala Gly Cys Ile Thr Asp Ser Asn Pro Gly His Val Gln Tyr Trp Arg Leu
Cys Gly Phe Asn Gly Asp Thr Gly Leu Pro Asp Leu Asp Pro Asn Ser Trp Val Ile Asp Gln Gln Lys
Arg Tyr Leu Arg Ala Leu Lys Asp Met Gly Ile Lys Gly Phe Arg Val Asp Ala Val Lys His Met Ser
Asp Tyr Gln Ile Asn Gln Val Phe Thr Pro Asp Ile Ile Ala Gly Leu His Val Phe Gly Glu Val Ile Thr
Ser Gly Gly Lys Gly Ser Asn Asp Tyr His Ser Phe Leu Glu Pro Tyr Leu Asn Ser Asn Thr Asn His Ala
Ala Tyr Asp Phe Pro Leu Phe Ala Ser Ile Arg Asn Ala Phe Ser Tyr His Gly Ser Leu Ser Gln Leu
His Asp Ser Gln Ala Tyr Gly Gln Ala Leu Pro Asn Asp Arg Ala Ile Thr Phe Thr Ile Thr His Asp

Figure 16 (cont.)

Ile Pro Thr Asn Asp Gly Phe Arg Tyr Gln Ile Met Asp Pro Thr Ser Glu Lys Leu Ala Tyr Ala Tyr
Ile Leu Gly Lys Asp Gly Gly Ser Pro Leu Ile Tyr Ser Asp Ala Leu Asp Pro Ser Glu Asp Lys Asp
Lys Gly Arg Trp Arg Asp Val Trp Asn Gln Glu Tyr Met Val Asn Met Ile Ser Phe His Asn Lys Val
Gln Gly Lys Ser Met Glu Val Met Tyr Ser Asp Gln Cys Leu Leu Val Phe Lys Arg Glu Lys Gln
Gly Leu Val Gly Ile Asn Lys Cys Ala Glu Ser Arg Thr Tyr Thr Ile Asp Thr His Arg Phe Glu Phe
Asn Trp Tyr Gln Pro Tyr Asn Asp Thr Leu Ser Gln His Ser Glu Thr Phe Ser Ser Arg Tyr His Ala
Leu Thr Ile Pro Ala Gln Thr Ala Arg Met Leu Ala Leu

SEQ ID NO: 145

atgttgaaggattacggtagctgtgttattatttatttcttcttaataatataatgggaggaataaggcgggaagcagcaacgataaataatgga
acataatcagcatattttgagtgtagctccgaatgatgggaatcattggaatcgtttcggttatgatctgaaagttagctcaagggaatcac
atctgtatggataccaccctgcataaaaggacatcgcataaagtatgtagggtagggcctatgattatacagtttaggggagttcaatcaaaa
ggaaacggtgcggacgaatatgggacaaaggcacaagtgaatctgcaattgacgctttacataaagcaaacatcgcagctatacgggtgatga
gttatgaatcataaagggtggcgtgattatcatgtaaacccgtaacacgctgttgaggtagacggtacaacatgaatatgaagtatcaggtgattatg
aaattatgctggtggacgggttttaactttccaggcgacagagatgcttattctaatttcaaatggaaatggtatcttttgcgggaacggatgggat
gaagggaaggaaataaacgcgaatttataaatttaggggtataggtaaaagcgtgggactgggaagtgctacgcgaaaatggaattatgattattg
atgatcagatcttgattttatcatccagatgttgcgaatgaatgaaaggttggggaacgtggtatgcgaatgaattaaatttagatggaattcgt
ttagatctgtttaaacaatttgatcatgaataatttaccgcatgtgggtaaacatgctcagacgcaaacgggaaagaattgttaccggtggctgaat
attggcaaatgataccagactttaacaattatttggcgaagtgcaattataatcaatctgtatttgatgcaccgcttcatacaattttcattatgctt
caacaggaaatgggaattatgatatgagaataattttaaattggaacagtaatagaaaatcatcctgcactcgaattatctctgttgagaatcatga
ttctcaacctgggcaatcattggaatctgtagtaagctcgtgtttaaagcgcgtggcatatgcatattttaactctgctcagaggcctatccctgat
ttttatggtgattactatgggacaagcggaaatagtgattgaattccagcgttaaaagataaaattgacccaattttgacgcacgcaaaaact
ttgcatatggtagcagcgtgattatttagaccatcagatgtgattggctggacaagagagaagatgtgacatgctaaagctctgttttagcgg
cattactctccgatggacaggagcaaggtggaatgttggaaagataaacgcgtgggaagtatgtgacatgataatgggtaatcaaac
aaatactgtacaataataaagatggatcgggcaattccatgtaagtggagcgtctgtttctatattgttcaacagtaa

SEQ ID NO: 146

Met Leu Lys Arg Ile Thr Val Val Cys Leu Leu Phe Ile Leu Leu Phe Pro Asn Ile Tyr Gly Arg Asn
Lys Ala Glu Ala Ala Thr Ile Asn Asn Gly Thr Leu Met Gln Tyr Phe Glu Trp Tyr Ala Pro Asn Asp
Gly Asn His Trp Asn Arg Leu Arg Tyr Asp Ala Glu Ser Leu Ala His Lys Gly Ile Thr Ser Val Trp
Ile Pro Pro Ala Tyr Lys Gly Thr Ser Gln Asn Asp Val Gly Tyr Gly Ala Tyr Asp Leu Tyr Asp Leu
Gly Gly Phe Asn Gln Lys Gly Thr Val Arg Thr Lys Tyr Gly Thr Lys Ala Gln Leu Lys Ser Ala Ile
Asp Ala Glu His Lys Gln Asn Ile Asp Val Tyr Gly Asp Val Val Met Asn His Lys Gly Gly Ala Asp
Tyr Thr Glu Thr Val Thr Ala Val Glu Val Asp Arg Asn Asn Arg Asn Ile Glu Val Ser Gly Asp Tyr
Glu Ile Ser Ala Trp Thr Gly Phe Asn Phe Pro Gly Arg Arg Asp Ala Tyr Ser Asn Phe Lys Trp Lys
Tyr Thr Lys Phe Asp Gly Thr Asp Trp Asp Glu Gly Arg Lys Leu Asn Arg Ile Tyr Lys Phe Arg Gly
Ile Gly Lys Ala Trp Asp Trp Glu Val Ser Ser Glu Asn Gly Asn Tyr Asp Tyr Leu Met Tyr Ala Asp
Leu Asp Phe Asp His Pro Asp Val Ala Asn Glu Met Lys Ser Trp Gly Thr Trp Tyr Ala Asn Glu Leu
Asn Leu Asp Gly Phe Arg Leu Asp Ala Val Lys His Ile Asp His Glu Tyr Leu Arg Asp Trp Val Asn
His Val Arg Gln Gln Thr Gly Lys Glu Met Phe Thr Val Ala Glu Asn Asp Ile Gln Thr
Leu Asn Asn Tyr Leu Ala Lys Val Asn Tyr Asn Gln Ser Val Phe Asp Ala Pro Leu His Tyr Asn
Phe His Tyr Ala Ser Thr Gly Asn Gly Asn Tyr Asp Met Arg Asn Ile Leu Asn Gly Thr Val Met Lys
Asn His Pro Ala Leu Ala Val Thr Leu Val Gln Asp Ser Gln Pro Gly Gln Ser Leu Glu Ser
Val Val Ser Pro Trp Phe Lys Pro Leu Ala Tyr Ala Phe Ile Leu Thr Arg Ala Glu Gly Tyr Asp Ser
Val Phe Tyr Gly Asp Tyr Tyr Gly Thr Ser Gly Asn Ser Ser Tyr Glu Ile Pro Leu Lys Lys Lys
Ile Asp Pro Ile Leu Thr Ala Arg Lys Asn Phe Ala Tyr Gly Thr Gln Arg Asp Tyr Leu Asp His Pro
Asp Val Ile Gly Trp Thr Arg Glu Gly Asp Ser Val His Ala Lys Ser Gly Leu Ala Leu Ile Ser
Asp Gly Pro Gly Gly Ser Lys Trp Met Asp Val Gly Lys Asn Asn Ala Glu Val Trp Tyr Asp Ile
Thr Gly Asn Gln Thr Asn Thr Val Thr Ile Asn Lys Asp Gly Ser Gly Gln Phe His Val Ser Gly Gly
Ser Val Ser Ile Tyr Val Gln Gln

Figure 16 (cont.)

SEQ ID NO: 147

atgagcttaataactttaaggtaaactgcttattgttgcgtgcttctgctgtattgtcactggctccaaatttagccaatgctgcaaatgttgaag
tgaatggtgtgataaactcctgittcagtggaacatgacaaatagacaaagagtgtagacagtgacttggccagccggaattgacggtgtaca
gatttccagccagcggaacataagcgggctgaagagtgatgggtggccgtatatcagccggttaattataaagaattttacaacatgaccggta
acgaggaagcagcttaagcgaatgacaaagacctgtaattgatgacgggtgtaaagggttctcgtgacgctgttttcaaccaaagggtacagacgg
tgtaggctggggcggttcaacttgaggtataaagaactacctgacgggattccggatcagattttcatgagagactgttccattgacaaaggctat
actgatgcaaaatgtcagaacctgtgcaactctcaggtatgccggacgttgccacagataactccgctactcaggaagaagtgtcagatattcct
cgctctttatgaatattgggggtctatggtttccgtattgacgctgcacaaagacatgggatacagcagatacactccattctttcaaaacgctcac
agaagactggaaagacacccctgcatactcggaaagtaacggagccggtaacgaagctgccgacttgcagccggaacagatatacctttattga
gaatgcgggttgaactgactcgggtatgtctgggagcaaatgagagtttcggaagggttaattcggtaggcacgtggaactcagactcgtgct
cgggtgcaaatcagaacaactgttaaacaatcatgatgagatggggcagatgctcagccggtagctgctcaatgaaactcagaattatgctg
attataatctgagctagcttgcgtgtgctgtatggcctgtaggtacagtaaagacagataatctcgggttatctatccctgttaaagaataatgacttta
tcgctgacgtgatgcaactcatgatcagggcggccctctgtgcccagccgtgtggaagggtggtgtgtgacgacccgtgtgctcttctgttct
caattcccaaagatttgcgagagctaccagaggtactcgtgtatcaaccaagggaattgacaatgggtgctgttgggtttaacagaggaagcaag
gtttttatgcacaagaatactaccaacagctcctataacccaagacattctgttgaagactcagcggaaattactgtgatatcttgaagaatcagat
ccaaagagcaatcctcagcggagcagacgtgtgtgtatagcggcggttaaagggtcactttacttctcgaagaacagctgtgtgctatctgtacaga
ctcagactgtgtgcggcgaagggtgtatcctgtgaaagtatccgaacgggtgctgctgttggtaggggggaacaccggttaattgtgtgtgt
gctgacgctgtgtgaatgcgcaattcacaatgaggaatgcaactgtgtattgataccgaatgatgccaaactgtcagggctgatttgaactacca
agggtaaactgtgtacggcggtacttcaaacgggtggaaacaggaccttataacataaacgttaaacaagggttctggactattatctgactctt
gacgctgcaggtgataccagcggagctcagcgtctcaaggttacagacgagtgatgttcatggaccggaaacagttacgggttctcaggtactgctg
gaaagtgtggtgtaaatcatcatcaaccggcgatgaacctgtgtcttctgttgggtattgttcttccataacagataagacactggaataatacat
taccaaaggcagatgaagtaataatcagccacgggtgtcatctttaccggcagacgttaacgggtctgacgttcttggccaaattactcagca
ccctgagaaatgatgaataactcagctggaattcggtaattggtataagacatctcagaaagactcctcagcaataactatfagaagatccggta
agtaatactgttactttaaagggttactgaticagctaaataactgatacttactaaagataataactgtaaacagccctctagtggcaagtacttaaa
gggttcagctcagagggttcgcatgataactcgaactgactgttaaaccaagaacgggtctgattggaccggcgcttcttgaattcttggatccaact
gtgtgacactgcaggcgcgagctc

SEQ ID NO: 148

Met Ser Leu Asn Asn Phe Lys Val Lys Leu Leu Ser Phe Ala Val Ser Ser Ala Val Leu Ser Leu Ala
Pro Asn Leu Ala Asn Ala Ala Asn Phe Glu Ser Glu Met Val Ile Ile His Pro Phe Gln Trp Thr Tyr
Asp Asn Ile Ala Lys Glu Cys Thr Glu Tyr Asp Leu Ala Glu Gly Val Gln Phe Asp Gly Val Gln Ile Ser Gln
Pro Ala Glu His Lys Arg Ala Glu Gly Val Trp Trp Ala Val Tyr Gln Pro Val Asn Tyr Lys Asn Phe
Thr Thr Met Thr Gly Asn Glu Glu Lys Ala Met Ile Lys Thr Cys Asn Asp Ala Gly Val Lys
Val Phe Ala Asp Ala Val Phe Asn Gln Lys Ala Thr Asp Gly Val Gly Trp Gly Gly Ser Thr Trp Ser
Tyr Lys Asn Tyr Pro Asp Gly Phe Ser Gly Ser Asp Phe His Gly Asp Cys Ser Ile Asp Lys Ser Tyr
Thr Asp Ala Asn Val Arg Thr Cys Ala Leu Ser Gly Met Pro Asp Ser Thr Ala Asp Asn Ser Ala
Thr Gln Glu Lys Ile Ala Asp Tyr Leu Ala Ser Leu Met Asn Met Gly Val Tyr Gly Phe Arg Ile Asp
Ala Ala Lys His Met Gly Tyr Asn Asp Ile Asn Ser Ile Leu Ser Lys Thr Ala Gln Lys Thr Gly Arg
Arg Pro Pro Ala Tyr Leu Glu Val Ile Gly Ala Gly Asn Glu Ala Asp Ile Gln Pro Asp Lys Tyr
Thr Phe Ile Glu Asn Ala Val Val Thr Asp Phe Gly Tyr Val Trp Asp Ala Asn Glu Ser Phe Gly Lys
Gly Asn Tyr Gly Lys Ala Leu Glu Leu Ser Thr Trp Leu Gly Ala Asn Ser Glu Thr Phe Val Asn Asn
His Asp Asp Gly Trp Gly Arg Cys Ser Ala Gly Ser Cys Ser Met Lys Thr Gln Asn Tyr Ala Asp Tyr
Asn Leu Ala Gln Ser Trp Leu Ala Val Trp Pro Val Gly Thr Val Arg Gln Ile Tyr Ser Gly Tyr Ser
Phe Pro Val Lys Asp Asn Asp Pro Tyr Arg Val Ser Asp Ala Thr His Asp Gln Gly Gly Pro Leu Gly
Ala Asp Arg Cys Glu Gly Gly Trp Leu Cys Gln His Arg Val Ser Phe Val Leu Asn Ser Pro Arg Phe
Ala Arg Ala Thr Arg Gly Thr Ala Val Ser Thr Lys Gly Phe Asp Asn Gly Ala Leu Trp Phe Asn Arg
Gly Ser Lys Gly Phe Tyr Ala Gln Asn Thr Thr Asn Ser Pro Ile Thr Gln Thr Phe Ser Val Glu Val
Pro Asp Gly Asn Tyr Cys Asp Ile Leu Gly Thr Ser Asp Pro Lys Ser Asn Pro Cys Gly Ala Asp Val
Val Val Ser Gly Gly Lys Thr Ala Thr Phe Thr Ile Pro Ala Lys Thr Ala Val Ala Ile Cys Thr Asp Ser

Figure 16 (cont.)

Asp Trp Cys Gly Lys Lys Gly Val Asp Pro Cys Glu Ser Asp Pro Thr Gly Ala Ala Cys Val Cys Lys Gly
Glu Thr Thr Val Asn Gly Val Cys Val Ser Trp Cys Asn Ala His Ser Ser Asn Glu Glu Cys Thr Cys
Val Leu Asn Pro Asn Asp Ala Asn Cys Gln Ala Asp Ile Glu Pro Thr Lys Gly Lys Leu Cys Tyr Ala
Gly Thr Ser Asn Gly Trp Lys Glu Asn Pro Leu Thr Tyr Asn Arg Lys Thr Gly Phe Thr Ile Asn
Leu Thr Leu Asp Gly Ala Gly Asp Thr Ser Gly Ala Gln Arg Phe Lys Val Thr Asp Gly Cys Ser Trp
Thr Gly Thr Val Tyr Gly Ser Ser Gly Thr Ala Gly Lys Leu Asp Val Asn Thr Ser Ser Thr Gly Asp
Glu Pro Val Ser Leu Val Gly Asp Tyr Val Leu Ser Ile Asn Asp Lys Thr Met Glu Tyr Thr Phe Thr
Lys Ala Asp Glu Val Thr Asn Gln Pro Pro Val Ala Ser Phe Thr Ala Thr Val Asn Gly Leu Thr Val
Ser Phe Ala Asn Asn Ser Ser Asp Pro Glu Asn Asp Glu Leu Thr Tyr Ser Trp Asn Phe Gly Asn Gly
Lys Thr Ser Ser Glu Lys Ala Pro Ser Ile Thr Tyr Glu Glu Ser Gly Lys Tyr Thr Thr Thr Lys Lys
Val Thr Asp Ser Ala Asn Asn Thr Asp Thr Phe Thr Lys Asp Ile Thr Val Thr Ala Pro Ser Ser Gly
Lys Tyr Leu Lys Val Ala Val Arg Gly Ser His Asp Asn Tyr Gly Asp Leu Leu Thr Lys Asn Gly
Ser Asp Trp Thr Gly Val Phe Glu Phe Gly Ser Thr Ser Val Asp Leu Gln Ala Arg Glu Leu

SEQ ID NO: 149

atgatcttaa gtaatttaa ggtaaaaa cttcttag ttgtgtgt cttcttct gctgtact gacactgg ctgcaaatgt ccgaatgcc aagaattat gaaa
gtgaatggtt atttactc atttcacgt ggcacatg atgacaaat atagcaaa gaatgact gtagtact gggacctc ggggattg acgggggtg ca
gtttcccgac gcggtgac gacataa agatgc cgggtg tgcacgt ggggtac ctaccagc cgttgact caaaggattt aactacat ggttggtg
atgaagaac agcttag agcaatg attaaaac ctgtaac gaggcag gctgttaa aggtctt tccgcg atgcct gattaa cagaagc cggcgac gg
tgaaggta tgggtgtt aaccttc gggaaat taaatatt actcga ggcgattt accagtgat gattttcat aataactc gcatgata ggtaataatt
cagatgat ggggtg atgaatgt tctgtac ctcagtt ggcatg ccggatata gcaactg taacgac gacgac gaaataa agatgtcgtt actctg
ccagccttat gaatatg ggggtat acggatt ccgctatt gatgct gccaagc actttag ctatgat gatata gacgc tattgtaga gaaaacgaa
ccaaagcag gcgaagac ctctctg ctatata ggaagg tttac ggtaac tccgggtc aagaagg ccgagtgat atcagcc gaacaa gataatcgga
ttgataatg ccggtgtg aacag gattttac ttatgcta atgcatg cataatattt itaacgg aagcgtt atgcca agcctt gtaacatg ggggctag ggc
atgttgat gctgaaatg ccgaagct tttata agaatcat gataaagt ggggaagaa gcttgc gccgtt cctgc tcaataa gaaccca gaata
atccgatt accatct ggctcag tctggctc gcagtttt ggccttt agccaa ggttagac gattttat tctc atactc agttcc cggctttt gaagata
gttgtag cgggtgta gta cgaagcc catgac agggc ggtcctat cggggc agcccg cgtgtg aaggtt ggctgt gttgtg tcaacg accgtgtac
cgtttgtg ctcaattc tctatg atttca agagca caaccaga gggcag atcgtt actacta aaggtttt gatgac ggaagc attt ggttttaac agagg
aagcaaa gggctt cttatg cccaga taactacc ggcagttt cataactc atactt ctagtt gaattac cttgatg gaaatf actt gtagatc tcttgg ag
caaccgat ccgaaga ataatct tgcggca ggggatgt cactgta agcggag gataaag caacctt ttaaccatt ccggca aagacc gccgtagcta
tctgtat gatgaaa agtgggtgt gcaaggg ggttgacc cctt gtaaa gcatct ctaacgggtt ccgctgtg tgaatga aggtgaa accacagtt
aacggct gatgtg aaagct ggtgtg atgtc tactcat tcaatg aagaatgt gcctgt gtgtc taaatc ttaatg acgtgct gattg cggccg cactt
gagcgcg caaagggt aactct gctatgt agttacct caacaagg actcagg aacctt aactcata ttaactc gaagacc ggtttctg actct
caacgtt gaactgac ggttaa gggggata ccagcggggc gcaagcgtt ttaagg ttaccg cgcgtgtt cactg cgaggtactgtttt acgtgtt ca
tcaggatgaa ggcga cgtactgac gtaaatctt cagccac caggatg aacgggtt tcactg caaggt aatatgtctt ctcataa atgataag
accatgaa taacacat tctctg cagcga ggtgga acaagc ctcctc ggttgc gtcattact ctcgactgt gtaagatct gactgt acttctt gta
taattcatcc gaccctg agatgat gtaataa cctacagctg gaaatttc gttacgggt aaaaacctc tctgtaaa gaatcc gagggtttacatgat
aaagcc ggttaata tactgtttca cttcaagta accgatact gcaaacaa cactgata ccaaacact ggaatc gatttaacat ctcctgttaa cg
gaaaata tccaaggtt gca gta cga ggttca catgata actcggaa caaatctgtt aaacaggaa gtgttcgaat ggtgac cgggtatctt gtaatt
cagtaagaca caacaaat caaagctt ggaagctc tgcctc tgcagctg accaggtgtat tctcctc ggggttaac ggaaggtg aggcattg actgctc
ccgtgggtt attatctt cctctgc ggaaggtt atactataa agtttaat gaggaag caaggtt tctactgca ggcgactgtt gactgc acccggg

SEQ ID NO: 150

Met Ile Leu Ser Asn Phe Lys Val Lys Leu Leu Ser Phe Ala Val Ser Ser Ala Val Leu Thr Leu Ala
Ala Asn Val Ala Asn Ala Lys Asn Tyr Glu Ser Glu Met Val Ile Ile His Pro Phe Glu Thr Trp Thr Tyr
Asp Asn Ile Ala Lys Glu Cys Thr Glu Tyr Leu Gly Pro Ala Gly Phe Asp Gly Val Gln Ile Ser Gln
Ala Ala Glu His Lys Asp Ala Gly Gly Ala Trp Trp Gly Thr Tyr Gln Pro Val Asn Phe Lys Ser Phe
Thr Thr Met Val Asn Glu Glu Gln Leu Arg Ala Met Ile Lys Thr Cys Asn Glu Ala Gly Val Lys
Val Phe Ala Asp Ala Val Ile Asn Gln Lys Ala Gly Asp Gly Val Gly Ile Gly Gly Ser Thr Phe Gly
Asn Tyr Asn Tyr Pro Asp Gly Phe Thr Ser Asp Asp Phe His Asn Asn Cys Ser Ile Gly Asn Asn

Figure 16 (cont.)

Tyr Ser Asp Ala Trp Val Val Arg Phe Cys Asp Leu Ser Gly Met Pro Asp Ile Ala Thr Asp Asn Asp
Ser Thr Arg Asn Lys Ile Ala Asp Tyr Phe Ala Ser Leu Met Asn Met Gly Val Tyr Gly Phe Arg Ile
Asp Ala Ala Lys His Phe Ser Tyr Asp Asp Ile Asp Ala Ile Val Glu Lys Thr Ala Thr Lys Ala Gly
Arg Arg Pro Pro Val Tyr Met Glu Val Ile Gly Asn Pro Gly Gln Glu Ala Asp Asp Ile Gln Pro Asn
Lys Tyr Thr Trp Ile Asp Asn Ala Val Val Thr Asp Phe Thr Tyr Ala Asn Ser Met His Asn Ile Phe
Asn Gly Ser Gly Tyr Ala Asn Ala Leu Asn Met Gly Leu Gly His Val Asp Ala Glu Asn Ala Glu Val
Phe Ile Ser Asn His Asp Asn Gly Trp Gly Arg Lys Ser Ser Gly Ser Cys Ser Ile Arg Thr Gln Asn
Asn Pro Asp Tyr His Leu Ala Gln Ser Trp Leu Ala Val Trp Pro Leu Gly Lys Val Arg Gln Ile Tyr
Ser Ala Tyr Gln Phe Pro Val Phe Glu Asp Ser Cys Glu Arg Val Ser Gln Gln Ala His Asp Gln Gly
Gly Pro Ile Gly Ala Ala Arg Cys Glu Gly Gly Trp Leu Cys Gln His Arg Val Gln Val Pro Phe Val Leu Asn
Ser Pro Arg Phe Ala Arg Ala Thr Arg Gly Thr Val Val Thr Thr Lys Gly Phe Asp Asp Gly Ala Leu
Trp Phe Asn Arg Gly Ser Lys Gly Phe Tyr Ala Gln Asn Thr Thr Gly Ser Ser Ile Thr His Thr Phe
Ser Val Glu Leu Pro Asp Gly Asn Tyr Cys Asp Ile Leu Gly Ala Thr Asp Pro Lys Asn Asn Pro Cys
Gly Ala Asp Val Thr Val Ser Gly Gly Lys Ala Thr Phe Thr Ile Pro Ala Lys Thr Ala Val Ala Ile
Cys Thr Asp Glu Lys Trp Cys Gly Lys Gly Val Asp Pro Cys Glu Ser Asp Pro Thr Gly Ser Ala Cys
Val Cys Lys Gly Glu Thr Thr Val Asn Gly Val Cys Val Ser Trp Cys Asn Ala His Ser Ser Asn Glu
Glu Cys Ala Cys Val Leu Asn Pro Asn Asp Ala Glu Cys Gln Ala Asp Ile Glu Pro Thr Lys Gly Lys
Leu Cys Tyr Val Gly Thr Ser Asn Lys Trp Thr Gln Glu Pro Leu Thr Tyr Asn Arg Lys Thr Gly Phe
Trp Thr Leu Asn Val Glu Leu Asp Gly Lys Gly Asp Thr Ser Gly Ala Gln Arg Phe Lys Val Thr
Asp Gly Cys Ser Trp Gln Gly Thr Val Tyr Gly Ser Ser Gly Val Glu Gly Arg Leu Asp Val Asn Thr
Ser Ala Thr Gly Asp Glu Pro Val Ser Leu Thr Thr Gly Lys Thr Val Leu Ile Asn Asp Lys Thr Met
Glu Tyr Thr Phe Ile Pro Ala Gly Ser Gly Asn Lys Pro Pro Val Ala Ser Phe Thr Pro Thr Val Lys
Asp Leu Thr Val Ser Phe Val Asn Asn Ser Ser Asp Pro Glu Asn Asp Glu Leu Thr Tyr Ser Trp Asn
Phe Gly Asn Gly Lys Thr Ser Ser Glu Lys Asn Pro Ser Val Thr Tyr Asp Lys Ala Gly Lys Tyr Thr
Pro Val Ser Lys Val Tyr Asp Thr Ala Asn Asn Thr Asp Thr Lys Leu Glu Ile Asp Leu Thr Ser
Ser Val Asn Gly Lys Tyr Ser Lys Val Ala Val Arg Gly Ser His Asp Asn Tyr Gly Thr Asn Leu Leu
Thr Arg Asn Gly Ser Glu Trp Thr Gly Ile Phe Glu Phe Ser Lys Thr Thr Lys Phe Lys Leu Glu Ala
Leu Pro Pro Ala Ala Asp Gln Cys Ile Phe Leu Gly Gly Asn Arg Gly Glu Ala Leu Thr Ala Ser Gly
Gly Phe Ile Ser Leu Pro Ala Gly Arg Tyr Thr Ile Lys Phe Asn Glu Glu Ser Lys Val Leu Thr Ala
Gly Asp Val Asp Cys Thr Gly

SEQ ID NO: 151

atgaaaactatttcttcaacatcatggtgatggcggctcggcgtccaccaccgtagagcgctcaaggctggccggaaactacggcggcgtc
atgttcgagggaattctcattggatctctattcagccaccaagtggactaaactggaaagcacagcgctgcagagatgcgaacttattctcgctgta
tggtagcacagctggcgcctacggcagcagctacccattggctacgacccgctgtattactctcagcacgattcattctggccaccgaag
agcagctacggctgttcacagctacctaacgacgaaaggaactggcatcatagccgatgtagttgtcaatcaccgaaagaatgtctcaaatc
ggttggaattccggcggagacacctacaacgggtgtacacctatcagatggttaagcaccgacatcgtttcgaacgatgacggcggaataacagcca
cttggcgcaaatcaaaaggctacagtctctctcctcaatgcgacgaaaggcgaaggctgggacggcatgcgcgacctggaccacaagtgcga
gaactgcgagaatcgggttctgctacaccaaatacttggttgacgacttagctataccggaatccgctacgatattgtaaaaggattgacgg
atcgctgtatgcgactacacaacccaatgccggcgctgcagttctctctcggcgaatatgggacggcactgcacatgaaagtgttacggttgatca
acagcaccacaaaaggacgatgtgccgcagctggcagccttcgacttcgtttccgatacactcgcgcatgccgttcacacaacaaagaactgg
gcgaactcgaaagaacactccggtatcagcagtgccgattacaggcgctattcgggttatcgtttgtgaaataccagataccggaatacgttcagct
acggcttccaggatccctacaaagggtgatacggttgcctcaatgcctggatgctgcctacggcgacactgtgttttctgaaacattgg
accgactgcgaagggaagatagaagaattctcatcgaggcagctgcgctgtcgggtattcacaacacgagcaccattgcggaatgtgatgagcgg
tgcagctacatcgagagctaccgctaaacggtagcgaacggcaccctacgtgtctgtgcggctcttcagatataatgtacgcccaactacattca
gattctctcaggcaaaactataaatactactgctactcaacagctcgaggtccctggatcgggaaagggttcggcgtgacaccgaaggtgaa
accgttaacgggttcgcctatcgccatcgccgatgccaattgccaagctggtatataccacgacggcgacagccccaccgcaacctcaaca
gccgtaaacacggaaaggaaactgacacatcttcggacgcgctctgaaggttggtctgtcttctcggcggcgactgttcaggaacatacagagc
cgtaactaaccttccagcgtgcacaacacctcgcgattattacagccacatgcacgtatgcaaacgagctccggagctctcaatccgctgttgc
ctatgtttggcgagaccgggacaacgagcagattaacggcaacttgccgggaccacagctaccgctaccattaccgaaacaaaccttaact

Figure 16 (cont.)

ggtacacgcagctgttccagattccgaagaacgtggactatgctggaactttgtttaccacaacggcgccggtacgcagacagtgatgtt
accggcatgaagccgatgtctgtgtacattattaacagtaccaagaaggcgaacaagtagcacggtaaccgagcttacctcacagattcttggtt
agagggcatcttggatgaagaaactcggctccttccctgtctatgacctgcaggagccgcgtcagcgaaattagaacaaggacaattatat
cttcagaacgcgaagaagatctctatcatcagataaacaagggttccgaaccattctctattatgaanaatcagacacttagtaattctcagcactgctg
ggtttggggggctgtacaccatcagctgctctctgctggg

SEQ ID NO: 152

Met Lys Thr Ile Leu Ser Thr Ile Met Val Met Ala Ala Ala Ala Thr Thr Val Glu Ala Gln Gly
Trp Pro Glu Asn Tyr Gly Gly Val Met Leu Gln Gly Phe Tyr Trp Asp Ser Tyr Ser Ala Thr Lys Trp
Thr Lys Leu Glu Ala Gln Ala Asp Glu Ile Cys Asn Tyr Phe Ser Leu Val Trp Val Pro Gln Ser Ala
Tyr Thr Gly Ser Ser Thr Ser Met Gly Tyr Asp Pro Leu Tyr Tyr Phe Asp Gln His Ser Ser Phe Gly
Thr Glu Glu Gln Leu Arg Ser Phe Ile Ser Thr Tyr Lys Gln Lys Gly Thr Gly Ile Ile Ala Asp Val Val
Val Asn His Arg Lys Asn Val Ser Asn Trp Val Asp Phe Pro Ala Glu Thr Tyr Asn Gly Val Thr Tyr
Gln Met Val Ser Thr Asp Ile Val Ser Asn Asp Asp Gly Gly Lys Thr Met Trp Ala Asn Gln Asn
Gly Tyr Ser Leu Ser Ser Asn Ala Asp Glu Gly Glu Gly Trp Asp Gly Ala Thr Arg Asp Leu Asp His
Lys Ser Gln Asn Val Gln Lys Ser Val Leu Ala Tyr Thr Lys Tyr Leu Val Asp Asp Leu Gly Tyr Thr
Gly Phe Arg Tyr Asp Met Val Lys Gly Phe Asp Gly Ser His Val Ala Asp Tyr Asn Thr Asn Ala
Gly Val Gln Phe Ser Val Gly Glu Tyr Trp Asp Gly Thr Ala Ser Lys Val Tyr Ser Trp Ile Asn Ser
Thr Lys Lys Ser Asp Val Pro Gln Ser Ala Ala Phe Asp Phe Ala Phe Arg Tyr Thr Cys Arg Asp Ala
Val Asn Asn Lys Asn Trp Ala Asn Leu Lys Asn Thr Ser Gly Ile Ser Asp Ala Asp Tyr Arg Arg Tyr
Ser Val Thr Phe Val Glu Asn His Asp Thr Glu Tyr Arg Ser Ala Thr Ala Ser Gln Asp Pro Ile Lys
Gly Asp Thr Val Ala Leu Asn Ala Trp Met Leu Ala Met Pro Gly Thr Pro Cys Val Phe Leu Lys His
Trp Thr Asp Cys Lys Glu Glu Ile Lys Asn Leu Ile Glu Ala Arg Arg Leu Val Gly Ile His Asn Gln
Ser Thr Tyr Ala Glu Trp Met Ser Gly Ala Ala Tyr Ile Gly Arg Thr Val Thr Gly Thr Asn Gly Thr
Leu Arg Val Leu Cys Gly Ser Tyr Gln Tyr Asn Val Ala Ala Asn Tyr Ile Gln Ile Leu Ser Gly Lys
Asn Tyr Lys Tyr Tyr Val Leu Asn Thr Leu Glu Ala Pro Trp Ile Gly Lys Gly Ser Gly Ser Tyr Thr
Glu Gly Glu Thr Val Thr Val Pro Leu Ile Ala Ile Ser Ala Asp Ala Asn Ala Lys Leu Val Tyr Thr
Thr Asp Gly Thr Asp Pro Thr Ala Thr Ser Thr Ala Val Thr Ser Gly Thr Glu Leu Thr Ile Thr Ser
Asp Ala Val Leu Lys Val Gly Leu Leu Ser Gly Gly Ile Val Arg Asn Ile Gln Ser Thr Thr Phe Thr
Phe Gln Ala Ala Asn Thr Ser Glu Tyr Tyr Thr Ala Thr Met His Val Cys Asn Gln Ser Gly Ala Leu
Asn Pro Leu Phe Ala Tyr Val Trp Ala Gly Pro Asp Asn Glu Gln Ile Asn Gly Asn Trp Pro Gly Thr
Lys Leu Thr Thr Thr Thr Glu Asn Asn Leu Ser Thr Trp Tyr Thr Gln Ser Phe Gln Ile Pro Lys Asn
Val Asp Tyr Val Val Asn Phe Val Phe Thr Thr Thr Gly Gly Gly Thr Gln Thr Val Asp Val Thr Gly
Met Lys Ala Asp Val Ser Tyr Ile Ile Asn Ser Thr Lys Ser Gly Asn Lys Tyr Thr Val Thr Asp Val
Thr Ser Gln Tyr Ser Ser Tyr Leu Glu Ala Ile Phe Asp Glu Glu Asn Ser Gly Ser Phe Pro Val Tyr Asp
Leu Gln Gly Arg Arg Val Ser Glu Ile Arg Asn Arg Thr Ile Ile Ser Ser Glu Arg Lys Glu Asp Thr
His Gln Ile Asn Arg Gly Pro Phe Ser Tyr Tyr Glu Asn Gln Thr Leu Ser Asn Leu Ser Thr
Ala Gly Phe Gly Gly Leu Val His His Gln Leu Leu Leu Val Gly

SEQ ID NO: 69

atgttgaagaaggattacggtagtctgtttattgttttttcttctaataatatatgaggaataaaggcagaagcagcaacagtggaacaatgga
acattaatgcagatttttgaaggtagctccgaatgatgggaatcattggaatcgtttgcgttcgcatgctgaagatttagctcataaaggaaatcac
atctgtatggataaacccgtcatataaagggaactcgcaaaatgttaggggtatgggctatgatttatgatttaggggagttcaatcaaaa
ggacgggtgcggacgaatattggcacaagaacacagttgaaatctgcaattgacgctttacataagcaaaacatcgacgtatcaggtgatgag
ttatgaatcataaagggtggcgctgaattactgaacacgtctgttaggttagacggtacaacgtgaaatattggaagtacaggtgattatca
aattagtcatggacgggggttaattttccaggcgccggagatgcttatcttaattcaaatggaaatggatcatctttgacggaaacggattgggatg
aaggaaaggaataaatacgatttataaatttgggtgtgataaagcgtgggattgggaagtgtctagcgaataatggaaatttagattattgat
tgatgcagatcttgattttgatcctctgattgttcggaatgagatgaataattggggaacatgtagcgaatgaattaaatttagatgccttcgttt
ggacgctgttaaacatattgatcatgaattattacgcgattgggttaaatcatgccagacagcaaacggggaagaanaattgtttacagtagctgaata
ttggcaaaatgatgttcagggtttaacaattatttaggaagaaatataatacaatctgtgtttgatgcacgcctcatcaaatttcatatgtcttc

Figure 16 (cont.)

aacaggaaatgggaaattatgatagaaaatttttaattggaacagtaatgaaaaatcacccctgcactcgcgattactctcgttgagaatcatgat
tctacgctggggcagtcattggaaactctgtagtaagtcctgggttaagccgctggcatalgcattttttaactcgtcaggggcatctccctcaggt
tctatgtgtgattactatgggcaagcggaatagtagttatgaaattccagcgtttaaagataaaatgatccaatttggcggcacgaaaaaactt
tgcatactgcacgcgctgatttttagaccatccagatgtgattgctggcaagagaaggcgatgctgtacatgcatacttctggttagcgac
attactctcgacggcaggaaggaatcaaatggatggtggtggttggaaagaataacgcgtgggaagtgtgacgatattacgggtaatacaac
aaatactgttaacaattataaggcggatggggcgagttctatgtaagtgccggctcagtttccatatatgttcacgggtaa

SEQ ID NO: 70

Met Leu Lys Arg Ile Thr Val Val Cys Leu Leu Phe Ile Leu Leu Phe Pro Asn Ile Tyr Glu Gly Asn
Lys Ala Glu Ala Ala Thr Val Asn Asn Gly Thr Leu Met Gln Tyr Phe Glu Trp Tyr Ala Pro Asn Asp
Gly Asn His Trp Asn Arg Leu Arg Ser Asp Ala Glu Ser Leu Ala His Lys Gly Ile Thr Ser Val Trp
Ile Pro Pro Ala Tyr Lys Gly Thr Ser Gln Asn Asp Val Gly Tyr Gly Tyr Gly Ala Tyr Asp Leu Tyr Asp Leu
Gly Glu Phe Asn Gln Lys Gly Thr Val Arg Thr Lys Tyr Gly Thr Lys Ala Gln Leu Lys Ser Ala Ile
Asp Ala Leu His Lys Gln Asn Ile Asp Val Tyr Gly Asp Val Val Met Asn His Lys Gly Gly Ala Asp
Tyr Thr Glu Thr Val Thr Ala Val Glu Val Asp Arg Asn Asn Asp Asn Ile Glu Val Ser Gly Asp Tyr
Gln Ile Ser Ala Trp Thr Gly Phe Asn Phe Pro Gly Arg Gly Asp Ala Tyr Ser Asn Phe Lys Trp Lys
Trp Tyr His Phe Asp Gly Thr Asp Trp Asp Glu Gly Arg Lys Leu Asn Arg Ile Tyr Lys Phe Arg Gly
Val Asp Lys Ala Trp Asp Trp Glu Val Ser Ser Glu Asn Gly Asn Tyr Asp Tyr Leu Met Tyr Ala Asp
Leu Asp Phe Asp His Pro Asp Val Ala Asn Glu Met Lys Asn Trp Gly Thr Trp Tyr Ala Asn Glu
Leu Asn Leu Asp Gly Phe Arg Leu Asp Ala Val Lys His Ile Asp His Glu Tyr Leu Arg Asp Trp Val
Asn His Ala Arg Gln Gln Thr Gly Lys Glu Met Phe Thr Val Glu Tyr Trp Gln Asn Asp Val Gln
Ala Leu Asn Asn Tyr Leu Ala Lys Val Asn Tyr Asn Gln Ser Val Phe Asp Ala Pro Leu His Tyr Asn
Phe His Tyr Ala Ser Thr Gly Asn Tyr Asp Met Arg Asn Ile Leu Asn Gly Thr Val Met Lys
Asn His Pro Ala Leu Ala Val Thr Leu Val Glu Asn His Asp Ser Gln Pro Gly Gln Ser Leu Glu Ser
Val Val Ser Pro Trp Phe Lys Pro Leu Ala Tyr Ala Phe Ile Leu Thr Arg Ala Glu Gly Tyr Ser
Val Phe Tyr Gly Asp Tyr Trp Tyr Gly Thr Ser Ser Tyr Glu Ile Pro Ala Leu Lys Asp Lys
Ile Asp Pro Ile Leu Thr Ala Arg Lys Asn Phe Ala Tyr Gly Thr Gln Arg Asp Tyr Leu Asp His Pro
Asp Val Ile Gly Tyr Thr Glu Gly Asp Gly Val His Ala Asn Ser Gly Leu Ala Thr Leu Leu Ser
Asn Gly Pro Gly Gly Ser Lys Trp Met Asp Val Gly Lys Asn Asn Ala Gly Glu Val Thr Tyr Asp Ile
Thr Gly Asn Gln Thr Asn Thr Val Thr Ile Asn Lys Asp Gly Trp Gly Gln Phe Tyr Val Ser Gly Gly
Ser Val Ser Ile Tyr Val Gln Arg

SEQ ID NO: 153

ttgectcaatlaagcaagcgattgcaaaaaaggagataggagatgaagaggaaaaatggactcggttagcactactttaccactagtt
atgagcttatcaaacacatacagcagaacacattacataataaagggtcaaaaaggcgcaaacaggaaaaaaagcggaaattttttgaact
gtatgttaattctttttatgatactgataagcaatggacatgggtatttaaaaggcgctcaacaagaactgatatttaaatgatgaaatcaagaac
aataatgatcttcaataaacggtatctggtgatgctcttattacacactctcctgattatcacaaatgatgtgaacagattactataatcatgatct
cagtatggaaagttaacagatttccgtgaactcaacacagaaagcgataaacgcgaacgtaaaaggtgataatgatctgttattatcatatacagc
agtgagcattcctggtttgctgatgcaataaaaaataaaacagtaagatcagattactatattttggcgatataaaatcacagacttaattgaaa
aggccatggggcagcaagaatgtggcacaaagcgtcgaacggagagatttttaccgcaacgcttgggaaggatgcccggacttgaactatga
caaccctaaagtgaaggaagaatgatataaatcgggaaattttggctcaacaaggagctgatggcttctgctgatgcagcattcgcacattct
taaaaggcgcaaacactgaaggcgaaagaaataattgaatgggtgaatgaattccgcgcgcgatgagaagaacgaatccaataatcgtatct
agtgtggaatattgggtacaaacaggaagtgttgcctcgttatatacaatcgttagattcatttaacactgcattgacatataaaactgtaattcc
gttaaaatgtgactgatcaaaaggtagccggcagcgtgttgcacagatgattatataaaacataatcaataaaatgatggaacgttt
ttacgaatcatgaccaaactcgttaattgagtgagttlaaafggtgatgtaaaacaaagcaaaatcagaccccttattctgtgtgacactccgtga
atccgttcatttattatggcgaagaatcggcatgacaggccaaaaccagatgagttgattcgtgagccctttccgttggtatgaagatgataaag
aaggctcaaacgagctgggagactccagtatataacattgatcataatgtgttgcagttgaagcacaagaataacaaaaagcttcttcttaagcc
attatctgaataatgattcgtgttgcacgaacagatgaactgtcgaagggtatttgaacacttattctgtcaaatattcacaggtgttggtcctataat
cgtactgataaaaaataatcaattcaagtgtacataatttcagacaagccggttacattactgtttcaaaaaggaaaaactgatttttctagt
gaattaggagcaaaaaaggaaaaatcaacattgtaattccagcgaaatcagacagtgctgataaagtaa

Figure 16 (cont.)

SEQ ID NO: 154

Met Pro Ser Ile Asn Ala Ser Asp Cys Lys Lys Lys Gly Asp Arg Ser Met Lys Arg Lys Lys Trp Thr
Ala Leu Ala Leu Ser Leu Pro Leu Val Met Ser Leu Ser Thr Asn Ile Gln Ala Glu Thr Leu His Asn
Asn Lys Gly Gln Lys Ala Gln Thr Gly Asn Lys Asp Gly Ile Phe Tyr Glu Leu Tyr Val Asn Ser Phe
Tyr Asp Thr Asp Ser Asn Gly His Gly Asp Leu Lys Gly Val Thr Lys Lys Leu Asp Tyr Leu Asn
Asp Gly Asn Pro Arg Thr Asn Asn Asp Leu Gln Ile Asn Gly Ile Trp Met Met Pro Ile Asn Thr Ser
Pro Ser Tyr His Lys Tyr Asp Val Thr Asp Tyr Tyr Asn Ile Asp Pro Gln Tyr Gly Ser Leu Gln Asp
Phe Arg Glu Leu Thr Thr Glu Ala His Lys Arg Asn Val Lys Val Val Ile Asp Leu Val Ile Asn His
Thr Ser Ser Glu His Pro Trp Phe Val Asp Ala Leu Lys Asn Lys Asn Ser Lys Tyr Asp Tyr Tyr
Ile Trp Ala Asp Lys Asn Thr Asp Leu Asn Glu Lys Gly Pro Trp Gly Gln Gln Val Trp His Lys Ala
Ser Asn Gly Glu Tyr Phe Tyr Ala Thr Phe Trp Glu Gly Met Pro Asp Leu Asn Tyr Asp Asn Pro Lys
Val Arg Glu Glu Met Ile Lys Ile Gly Lys Phe Trp Leu Lys Gln Gly Ala Asp Gly Phe Arg Leu Asp
Ala Ala Met His Ile Phe Lys Gly Gln Thr Pro Glu Gly Ala Lys Lys Asn Ile Glu Trp Trp Asn Glu
Phe Arg Asp Ala Met Arg Glu Thr Asn Pro Asn Thr Tyr Leu Val Glu Ile Trp Asp Asp Gln Pro Glu
Val Val Ala Pro Tyr Tyr Gln Ser Leu Asp Ser Thr Phe Asn Phe Asp Leu Ala Tyr Lys Ile Val Asn
Ser Val Lys Asn Gly Thr Asp Gln Gly Val Ala Ala Ala Val Ala Thr Asp Glu Leu Tyr Lys Thr
Tyr Asn Pro Asn Lys Ile Asp Gly Thr Phe Leu Thr Asn His Asp Asn Gln Asn Arg Val Met Ser Glu Leu
Asn Gly Asp Val Asn Lys Ala Lys Ser Ala Ala Ser Ile Leu Leu Thr Leu Pro Gly Asn Pro Phe Ile
Tyr Tyr Gly Glu Glu Ile Gly Met Thr Gly Gln Lys Pro Asp Glu Leu Ile Arg Glu Pro Phe Arg Trp
Tyr Glu Asp Asp Lys Glu Gly Gln Thr Ser Trp Glu Thr Pro Val Tyr Asn Ile Asn His Asn Gly Val
Ser Val Glu Ala Gln Asp Lys Gln Lys Ala Ser Leu Leu Ser His Tyr Arg Lys Met Ile Arg Val Arg
Gln Gln His Asp Glu Leu Val Lys Gly Asn Leu Glu Pro Ile Ser Val Asn Asn Ser Gln Val Ala
Tyr Asn Arg Thr Tyr Leu Asn Lys Ser Ile Gln Val Tyr His Asn Ile Ser Asp Lys Pro Val Thr Leu
Thr Val Ser Asn Lys Gly Lys Leu Ile Phe Ser Ser Ser Glu Leu Gly Ala Lys Lys Glu Lys Ser Thr Leu
Val Ile Pro Ala Asn Thr Thr Val Leu Val Lys

SEQ ID NO: 155

gtgtcagaagtgtttgcaaacagcattcaaacctcttactgcgcgttatctgcgtgattttatgtctgttcttttggcttggcaggaccaacggctg
cgaatcgtgaacaggcgtcaacaatcaaatgagcttacagaccgtcgtacaaaagcggaaccattctcatgttggaaattggctgttcaatcagt
taaacacacaatatgaaggatattcatgatgcaggatatacagcgtattcagcgtctccgattaaccaagtcagggaagggaaccaaggaaataa
aaacatgtcgaactgtgacttggctctatcagccgacatcgtaccaaatggcaaccgtttacttaggtactgaacaagaatttaagaagtgtgtgc
agccgctgaagaatatggcataaaggttattgtgacgcggctcatcaatcattaccaccagtgactatgccgcgattffccaatgagattaaagagtatt
ccaaactggacacatggaaacacacaaaataaaacgtgtctgatcgtatgggatgtcacgcagaatgcattgtctggctgtatgactgtgaata
cacaaaatacacaagttacagtctatttgaacgggtcttgaagaagacattgaatgacggggcagacgggttttgattgatgccccaacata
tagagcttcgggatgatgtgcagttacggcagtcgaatttggccgaataatcacaataatctgcagagttccaatcaggagaataactcgcaggat
agtgcttcaaggatgtctcataatgcgaattatataatgtgacagcgtctaactatggcattcacaataggtccgttttaagaatcgttaacttggg
cgtgtcgaatatctccactatgatcagatgtgtctgtcggacaagctagtacatgggtagaatccgatgatacgtatgccaatgatgatgaag
agtcgacatggatgagcgtgatgatatactccgttttaggctggggcgtgatgacttctgttcaggcagtagtaccgtcttttctttccagacctgaggg
aggcgaaatgggtgagatgtccggggaaaaagccaaataggcgatcggcgagtgctttatttgaagatcagcattacgtcgggtcgaatg
atttccaatgtgatgtgtggcagacgctgaggaaactctcgaaacccaatggaaacaaccaatattatgaatcagcggcggtcacatggcgttg
tgcgtggcaaatgcaggttaccctctgtttctatcaatcgcacaacaaatgctctgatggcaggtatgataataaagctggggcaggttatttca
agtataatgacggtaaactgacagcgacgatacaatgccaggtctgtgtgtgttattccgtatgataatgcaaaagcgcctcatgttttcttgag
aattacaaacagggtgatacacatcttccaatgatcaactgacgattacactcgtcgtcagatcggaatacaacaaaagccgttttcaaaatcaata
gtgaccagcagcggcgtttaaaggatggagatcaatcacaatcggaaaggagatcatttggcaaaacatacaccatcattgttaaaaggaaac
gaacagtatgtgtgaacggagcaggacagggaataacagtgtttgttaaaagatccagcttggccaaaacatccggctatcaaaatccgaatcatt
ggagccaggtaaatgcttatctataacatgatggggcgccgggca

SEQ ID NO: 156

THE UNIVERSITY OF CHICAGO

SEO ID NO: 157

SEQ ID NO: 158

Met Gln Thr Ile Ala Lys Lys Gly Asp Glu Thr Met Lys Gly Lys Lys Trp Thr Ala Leu Ala Leu Thr
Leu Pro Leu Ala Ala Ser Leu Ser Thr Gly Val His Ala Glu Thr Val His Lys Gly Lys Ala Pro Thr
Ala Asp Lys Asn Gly Val Phe Tyr Glu Val Tyr Val Asn Ser Phe Tyr Asp Ala Asn Lys Asp Gly His

Figure 16 (cont.)

Gly Asp Leu Lys Gly Leu Thr Gln Lys Leu Asp Tyr Leu Asn Asp Gly Asn Ser His Thr Lys Asn
Asp Leu Gln Val Asn Gly Ile Trp Met Met Pro Val Asn Pro Ser Pro Ser Tyr His Lys Tyr Asp Val
Thr Asp Tyr Tyr Asn Ile Asp Pro Gln Tyr Gly Asn Leu Gln Asp Phe Arg Lys Leu Met Lys Glu Ala
Asp Lys Arg Asp Val Lys Val Ile Met Asp Leu Val Val Asn His Thr Ser Ser Glu His Pro Trp Phe
Gln Ala Ala Leu Lys Asp Lys Asn Ser Lys Tyr Arg Asp Tyr Tyr Ile Trp Ala Asp Lys Asn Thr Asp
Leu Asn Glu Lys Gly Ser Trp Gly Gln Gln Val Trp His Lys Ala Pro Asn Gly Glu Tyr Phe Tyr Gly
Thr Phe Trp Glu Gly Met Pro Asp Leu Asn Tyr Asp Asn Pro Glu Val Arg Lys Glu Met Ile Asn Val
Gly Lys Phe Trp Leu Lys Gln Gly Val Asp Gly Phe Arg Leu Asp Ala Ala Leu His Ile Phe Lys Gly
Gln Thr Pro Glu Gly Ala Lys Lys Asn Ile Val Trp Trp Asn Glu Phe Arg Asp Ala Met Lys Lys Glu
Asn Pro Asn Val Tyr Leu Thr Gly Glu Val Trp Asp Gln Pro Glu Val Val Ala Pro Tyr Tyr Gln Ser
Leu Asp Ser Leu Phe Asn Phe Asp Leu Ala Gly Lys Ile Val Asn Ser Val Lys Ser Gly Asn Asp Gln
Gly Ile Ala Thr Ala Ala Ala Thr Asp Glu Leu Phe Lys Ser Tyr Asn Pro Asn Lys Ile Asp Gly
Ile Phe Leu Thr Asn His Asp Asn Gln Asn Arg Val Met Ser Glu Leu Ser Gly Asp Val Asn Lys Lys
Ser Ala Ala Ser Ile Leu Leu Thr Leu Pro Gly Asn Pro Tyr Ile Tyr Tyr Gly Glu Glu Ile Gly Met Thr
Gly Glu Lys Pro Asp Glu Leu Ile Arg Glu Pro Phe Arg Trp Tyr Glu Gly Asn Gly Leu Gly Gln Thr
Ser Trp Glu Thr Ser Val Tyr Asn Lys Gly Gly Asn Gly Val Ser Val Glu Thr Gln Thr Lys Gln Lys
Asp Ser Leu Leu Asn His Tyr Arg Glu Met Ile Arg Val Arg Gln Gln His Glu Glu Leu Val Lys Gly
Thr Leu Gln Ser Ile Ser Val Asp Ser Lys Glu Val Val Ala Tyr Ser Arg Thr Tyr Lys Gly Lys Ser Ile
Ser Val Tyr His Asn Ile Ser Asn Gln Pro Val Lys Val Ser Val Thr Ala Lys Gly Lys Leu Ile Phe Ala
Ser Glu Lys Gly Ala Lys Lys Val Lys Asn Gln Leu Val Val Pro Ala Asn Thr Thr Val Leu Ile Lys

SEQ ID NO: 159

ttgcaaaaaaagggtgtaaacgatgaagaagggaataatggacagcttttagctctaacactgccgtgctgctagctttaacaacagcgcttic
tcgccgaaccgtatcataaaggtaaatctccaacagcagataaaaaaggtgtattttatgagggttatgtaaacctttttacga tgc aataaaga
tgacatgttgatttaaaaggctctacacaaaagtggtatttttaaatgatggcaattctcatacaaaagaatgatcttcaagtaaacgggatttggat
gatcgccgtcaacccttcccgatcatataaataatgatgaacggactattataattgatccgcagiatggaactcgcaagattttcgcacac
tgatgaagaagaacagataaacagagatgtaaaagtcattatggaccttggtgtaatcatacagcagcgtgaacaccccttggttcaagctgcattaa
aagataaaaaacagcaagtagcagagattactatctggcctgataaaaaatccgacttgaatgaaaaaggatcttgggacagcagaatgtggca
taaaagctcacaacggagagattttttacggaacgttttgggaaggaaatgccgcacttaaatcagataactctgaagtagaagaaagaaatgattaa
cgtaggaaaagttttggcctaaagcaagggttgatgggttccgtctagatgctgcgcttcatatttttaaaaggccaacacactgaaggcgctaaagaa
aaatctccgtggttggaatgaatttggagatgcaatgaaaaaggaaaacccatacgtatatctaacgggtgaaatgtaggacacccgggaagta
gtagcttctactatcaatcgtgtattctttattaaactttgattagcaggaaagattgtaacctctgtaaaatcagaaatgatcaaggaaatcgca
ctgcagcagcggccaacgggatgaactgttcaaatcatacaatccaaataaattgacgggtattttcttaaccaactgatgcacaaatcgcgtcatga
gtgagctaaacggcgatgtgtaataaagcaaaatgcagctgcctctatcttacttactgccttcggcaacccgtattattattatcgggtgaagaaatcgg
catgacgggtgaaagcgtgatgattaatccgtgaaccggttccctgtgacgaaggaaacggacttggacaacacacgtgggaacacacctgt
atatacaaaaaggcgcaacggcggtctgtgaagcagacaaaacaaaaggactctttgtaaatcattaccgtgaatgatgtcgtgcgtc
agcagcaggaaggttagtaaaaaggaaacgttcaacttatttcagttagaca gtaagaaagtcgttcctatagccgtacgtatataaaggcaaatg
attagcgtgtatcataattttcaaatcaacgggtaaaagtatctgtgacgcacaaaaggtaaatgatttttctagtgtgaaaagggtcgtgaagaaatg
caaaatcagctgtgattccggcgaatacaacgggttttaataaataa

SEQ ID NO: 160

Met Gln Lys Lys Gly Asp Glu Thr Met Lys Gly Lys Lys Thr Thr Ala Leu Ala Leu Thr Leu Pro
Leu Ala Ala Ser Leu Ser Thr Gly Val His Ala Glu Thr Val His Lys Gly Lys Ser Pro Thr Ala Asp
Lys Lys Gly Val Phe Tyr Glu Val Tyr Val Asn Ser Phe Tyr Asp Ala Asn Lys Asp Gly His Gly Asp
Leu Lys Gly Leu Thr Gln Lys Leu Asp Tyr Leu Asn Asp Gly Asn Ser His Thr Lys Asn Asp Leu
Gln Val Asn Gly Ile Trp Met Met Pro Val Asn Pro Ser Pro Ser Tyr His Lys Lys Tyr Asp Val Thr Asp
Tyr Tyr Asn Ile Asp Pro Gln Tyr Gly Asn Leu Gln Asp Phe Arg Lys Leu Met Lys Glu Ala Asp
Lys Arg Asp Val Lys Val Ile Met Asp Leu Val Val Asn His Thr Ser Ser Glu His Thr Pro Trp Phe Gln
Ala Ala Leu Lys Asp Lys Asn Ser Lys Tyr Arg Asp Tyr Tyr Ile Trp Ala Asp Lys Asn Thr Asp Leu
Asn Glu Lys Asp Thr Trp Gly Gln Gln Val Trp Thr Lys Lys Ala Pro Asn Gly Glu Tyr Phe Tyr Gly Thr

Figure 16 (cont.)

Phe Trp Glu Gly Met Pro Asp Leu Asn Tyr Asp Asn Pro Glu Val Arg Lys Glu Met Ile Asn Val Gly
Lys Phe Trp Leu Lys Gln Gly Val Asp Gly Phe Arg Leu Asp Ala Ala Leu His Ile Phe Lys Gly Gln
Thr Pro Glu Gly Ala Lys Lys Asn Leu Leu Trp Trp Asn Glu Phe Arg Asp Ala Met Lys Lys Glu
Asn Pro Asn Val Tyr Leu Thr Gly Glu Val Trp Asp Gln Pro Glu Val Val Ala Pro Tyr Lys Lys Ser
Leu Asp Ser Leu Phe Asn Phe Asp Leu Ala Gly Lys Ile Val Asn Ser Val Lys Ser Gly Asn Asp Gln
Gly Ile Ala Thr Ala Ala Ala Thr Asp Glu Leu Phe Lys Ser Tyr Asn Pro Asn Lys Ile Asp Gly
Ile Phe Leu Thr Asn His Asp Gln Asn Arg Val Met Ser Gly Leu Asn Gly Asp Val Asn Lys Ala Lys
Ser Ala Ala Ser Ile Leu Leu Thr Leu Pro Gly Asn Pro Tyr Ile Tyr Tyr Gly Glu Glu Ile Gly Met Thr
Gly Glu Lys Pro Asp Glu Leu Ile Arg Glu Pro Phe Trp Tyr Glu Gly Asn Gly Leu Gly Gln Thr
Ser Trp Glu Thr Pro Val Tyr Asn Lys Gly Gly Asn Gly Val Ser Val Glu Ala Gln Thr Lys Lys Lys
Asp Ser Leu Leu Asn His Tyr Arg Glu Met Ile Arg Val Arg Gln Gln His Glu Glu Leu Val Lys Gly
Thr Leu Gln Ser Ile Ser Val Asp Ser Lys Glu Val Val Ala Tyr Ser Arg Thr Tyr Lys Lys Ser Ile
Ser Val Tyr His Asn Ile Ser Asn Gln Pro Val Lys Val Ser Val Ala Ala Lys Gly Lys Leu Ile Phe Ala
Ser Glu Lys Gly Ala Lys Lys Val Lys Asn Gln Leu Val Ile Pro Ala Asn Thr Thr Val Leu Ile Lys

SEQ ID NO: 161

gtggatccaaagaattgtagtcatttatgcaaacgattgcaaaaaaggggatgaaacgatgaaagggaataatggacagctttagctctaa
cactgcgcctggctgc tagcttatacaacagggtgttcacgccgaaacgctacataaagggttaaagctccaaacgacagataaaaacgggtgtcttttat
gagggtatatgtaaactctttttcagtcgcaataaagatggacatgggtgatttaaaggccctacacaaaagggtgactatttaaatgacggaataatc
tcatacaagaatgatcttcagtaaacgggtttggatgatgccgggtcaaccccttcctctgctatcataaatatgatgtaacggactattataat
tgatccgcagtagtggaaatctgcaagattttgcgaacttatgaaaagaacagataaacgagacgtctaaagtcattatggacctgtgtgtaacat
acgagcagtgaaacacccctgtttcaagctgcgttgaagataaaaaacagcaagatcacagataactataattttggcgtataaaaaactgacttg
aatgaaaaaggatctgtgggacacaagatggcataaaagctcacaacggagatgattttttacggagcttctgggaaggaaagcctgacttaac
attacgataacccctgaagtaagaaaaagaatgattaacgtcggaaggttttggctaaaaacaggcctgtgacggcttcgcctgtagatgctgcccttc
atatttttaagggtcaaacgctcgaaggcgctaaagaaaaacatctctgttggaatgagtttagagatgcgtagaaaaaagaacccgaacgta
tatctaacgggtgaagttgtgggaccagcgaagtagtagccctctatcatcaatcattgattctattttaatttttagtagcggaaatgtc
agctctgtaaaaacgaggaatgatcaaaaggaatgccactgcagcagcggaacactgatgagctgttcaaatcatatacacaataaaaattgacg
gcattttctaacaacctgaccaaaatcgcgtatgagtgagttaaagcggcgatgtgaaataaagcaaaatcagccgcctctatcttactacgct
tcctggaaatccgtatattttattacgtgtagaagaaatggcatgacaggtgaaaagcctgatgaattaaatcgtggaacccgtccgctgtacgaag
caacggaattggacaacactagctgggaacacacctgtatatacaaaaggcgggtaacggcggtctgtctagaaagcaacaacaaaacaaaggatt
cctgtttaaatacattacgtgaaatgattcgtgtgtgccagcagcagagagtagtaaaaaggacgcttcaatcattttagtagacagataaag
aagtcgttgcctagcggcagctacaaaaggcaaatcattgacgtgtatcataattttcaaatcaacctgtaaaagatctgtgacgcggaag
gtaactgtatttttctgtagtgaagaaaggctgtaagaagtcataaaatcagctgtgtattccggcggaatgcgacggttttaataaataa

SEQ ID NO: 162

Val Asp Pro Lys Asn Cys Ser Gln Phe Met Gln Thr Ile Ala Lys Lys Gly Asp Glu Thr Met Lys Gly
Lys Lys Trp Thr Leu Ala Leu Thr Leu Pro Leu Ala Ser Leu Ser Thr Gly Val His Ala Glu
Thr Val His Lys Gly Lys Ala Pro Thr Ala Asp Lys Asn Gly Val Phe Tyr Glu Val Tyr Val Asn Ser
Phe Tyr Asp Ala Asn Lys Asp Gly His Gly Asp Leu Lys Gly Leu Thr Gln Lys Leu Asp Tyr Leu
Asn Asp Gly Asn Ser His Thr Lys Asn Asp Leu Gln Val Asn Gly Ile Trp Met Met Pro Val Met Pro
Ser Pro Ser Tyr His Lys Tyr Asp Val Thr Asp Tyr Tyr Asn Ile Asp Pro Gln Tyr Gly Asn Leu Gln
Asp Phe Arg Lys Leu Met Lys Glu Ala Asp Lys Arg Asp Val Lys Val Ile Met Asp Leu Val Leu
Asn His Thr Ser Ser Glu His Pro Trp Phe Gln Ala Ala Leu Lys Asp Lys Asn Ser Lys Tyr Arg Asp
Tyr Tyr Ile Trp Ala Asp Lys Asn Thr Asp Leu Asn Glu Lys Gly Ser Trp Gly Gln Gln Val Trp His
Lys Ala Pro Asn Gly Glu Tyr Phe Tyr Gly Thr Phe Trp Glu Gly Met Pro Asp Leu Asn Tyr Asp
Asn Pro Glu Val Arg Lys Glu Met Ile Asn Val Gly Lys Phe Trp Leu Lys Gln Gly Val Asp Gly Phe
Arg Leu Asp Ala Ala Leu His Ile Phe Lys Gly Gln Thr Pro Glu Gly Ala Lys Lys Asn Ile Leu Trp
Trp Asn Glu Phe Arg Asp Ala Met Lys Lys Glu Asn Pro Asn Val Tyr Leu Thr Lys Glu Val Trp
Asp Gln Pro Glu Val Val Ala Pro Tyr Tyr Gln Ser Leu Asp Ser Leu Phe Asn Phe Asp Leu Ala Gly
Lys Ile Val Ser Ser Val Lys Ala Gly Asn Asp Gln Gly Ile Ala Thr Ala Ala Ala Thr Asp Glu

Figure 16 (cont.)

Leu Phe Lys Ser Tyr Asn Pro Asn Lys Ile Asp Gly Ile Phe Leu Thr Asn His Asp Gln Asn Arg Val
Met Ser Glu Leu Ser Gly Asp Val Asn Lys Ala Lys Ser Ala Ala Ser Ile Leu Leu Thr Leu Pro Gly
Asn Pro Tyr Ile Tyr Gly Glu Glu Ile Gly Met Thr Gly Glu Lys Pro Asp Glu Leu Ile Arg Glu
Pro Phe Arg Trp Tyr Lys Gly Asn Gly Ile Gly Gln Thr Ser Trp Glu Thr Pro Val Tyr Asn Lys Gly
Gly Asn Gly Val Ser Val Glu Ala Gln Thr Lys Gln Lys Asp Ser Leu Leu Asn His Tyr Arg Glu Met
Ile Arg Val Arg Gln Gln His Glu Glu Leu Val Lys Gly Thr Leu Gln Ser Ile Ser Val Asp Ser Lys
Glu Val Val Ala Tyr Ser Arg Thr Tyr Lys Gly Lys Ser Ile Ser Val Tyr His Asn Ile Ser Asn Gln Pro
Val Lys Val Ser Val Ala Ala Lys Gly Asn Leu Ile Phe Ala Ser Glu Lys Gly Ala Lys Lys Val Lys
Asn Gln Leu Val Ile Pro Ala Asn Ala Thr Val Leu Ile Lys

SEQ ID NO: 163

atgtgtacgtccgaaccgacgggctgattggaaccgactatcgaacgactcgcagcacttgaagacattgggtgacgacgggtgtgattccg
ccggctacaagaagcagctcacagaacgatgtcgggtatggggcgtacgatttatacgaatcgcgaatcaacaaaaaggagaccgccg
gacgaagtacgggacgaagcgcagctcagaccgccatctcgaacttgcgcggtaaaggatcggtgtgtacggcgacgtctcatgaat
cacaaaggcggggccgallatataccgaatccgttcaggcgatcgagggtcaatccgtcgaaccggaaccaagaacgtccgggtgagtatggcat
ctcgccctggactgggttcaacttcgoggggcgcaacaatacatactcgcctcaaatggcgctgtaccattttgacgggtaccgattgggac
agtcacgcagctgtaggccgcatctaaagttaagacacaggaaggcgtgggacacggacgtgtcgaacgagacggccaactatgattat
cttatgttcgcgcagctgatttcgacatcccagggtccgcaagagatgaagaaactcgggcaaatgggtacggcgactcgtcggcgtcgaac
ggtttcgggttgatgcggtcaaacatcatcagccactcgtactgaaggagtggtgggtgacgacgttcgcgcagacgacacggggaagagatgttc
acggtcgcgcgattgtggaagaacgatcgttcgtccatcagcactatctgtataagacgggctacacgactcctcgtctgatgtgcgcgtcc
attataactccaagcggcggttaacggcgccgggtattacgatatgcgaacatcttgaaggccacgctcaccgaacagcatcctcgtcgtc
cgtgacgattgtcgataaccacgactcagccggccagtcgctcgagtcgacggtcccaactgggttcaaacgcgtcgcctacgcgacga
tcattgacgcgggttcagggttatccggccctcttctatggagactattatggcacgaaaggagacgaacccgaaatcccgacaatgtcgg
gcacgctccaacccgattttgaaggcacgaaaagacttcgctcagcgggacgcagcatgactacctcgaatcaggacgtcactcggctggacac
gtgaaggtgtgacgcaccgtgccaatccgggtctcgcgacgattctatcgcgacggctcggcggtcgaagtgtgattacgtcggcaaacag
aacgccggcgaggtgtgaaagacatgcgaacaacacgccctctcgtcgcacgatcaatgctgacggctggggtcagttctgtcaaccg
aggtcggctcgtattatcgaacaataa

SEQ ID NO: 164

Met Val Arg Pro Glu Arg Arg Ala Ala Leu Glu Pro Thr Ile Glu Arg Leu Ala Ala Leu Glu Arg His
Trp Val Thr Thr Val Trp Ile Pro Pro Ala Tyr Lys Gly Thr Ser Gln Asn Asp Val Gly Tyr Gly Ala
Tyr Asp Leu Tyr Asp Leu Gly Glu Phe Asn Gln Lys Gly Thr Thr Arg Thr Lys Tyr Gly Thr Lys
Ala Gln Leu Gln Thr Ala Ile Ser Asn Leu Arg Gly Lys Gly Ile Gly Val Tyr Gly Asp Val Val Met
Asn His Lys Gly Gly Ala Asp Tyr Thr Glu Ser Val Gln Ala Ile Glu Val Asn Pro Ser Asn Arg Asn
Gln Glu Thr Ser Gly Glu Tyr Gly Ile Ser Ala Trp Thr Gly Phe Asn Phe Ala Gly Arg Asn Asn Thr
Tyr Ser Pro Phe Lys Trp Arg Trp Tyr His Phe Asp Gly Thr Asp Trp Asn Gln Ser Arg Ser Leu Ser
Arg Ile Tyr Lys Phe Lys Ser Thr Gly Lys Ala Trp Asp Thr Asp Val Ser Asn Asn Asn Gly Asn Tyr
Asp Tyr Leu Met Tyr Ala Asp Val Asp Phe Glu His Pro Glu Val Arg Gln Glu Met Lys Asn Trp
Gly Lys Trp Tyr Ala Asp Ser Leu Gly Leu Asp Gly Phe Arg Leu Asp Ala Val Lys His Ile Ser His
Ser Tyr Leu Lys Glu Thr Thr Ser Val Arg Gln Thr Thr Gly Lys Glu Met Phe Thr Val Glu Thr
Tyr Trp Lys Asn Asp Leu Gly Ala Ile Asn Asp Tyr Leu Tyr Lys Thr Gly Tyr Thr His Ser Val Phe
Asp Val Pro Leu His Tyr Asn Phe Gln Ala Ala Gly Asn Gly Gly Tyr Tyr Asp Met Arg Asn Ile
Leu Lys Gly Thr Val Thr Glu Gln His Pro Ser Leu Ser Val Thr Ile Val Asp Asn His Asp Ser Gln
Pro Gly Gln Ser Leu Glu Ser Thr Val Ala Asn Trp Phe Lys Pro Leu Ala Tyr Ala Thr Ile Met Thr
Arg Gly Gln Gly Tyr Pro Ala Leu Phe Tyr Gly Asp Tyr Tyr Lys Gly Thr Thr Lys Thr Asn Arg Glu
Pro Asn Met Ser Gly Thr Leu Gln Pro Ile Leu Lys Ala Arg Lys Asp Phe Ala Tyr Gly Thr Gln
His Asp Tyr Leu Asp His Gln Asp Val Ile Gly Trp Thr Arg Glu Gly Val Thr Asp Arg Ala Lys Ser
Gly Leu Ala Thr Ile Leu Ser Asp Gly Pro Gly Gly Ser Lys Trp Met Tyr Val Gly Lys Gln Asn Ala
Gly Glu Val Trp Lys Asp Met Thr Asn Asn Asn Ala Arg Leu Val Thr Ile Asn Ala Asp Gly Trp Gly
Gln Phe Asn Asn Asn Gly Gly Ser Val Ser Ile Tyr Thr Gln Gln

Figure 16 (cont.)

SEQ ID NO: 165

atgcagatattcgaagtgctacgtggcacaattgaggggaacattgggaactgtttgcgtaatgatgctgaaatttagctcataaagggaattacatctgt
atggataccaccgctataaaaggcaacttcacaaaatgatgtagggtatgagtgatgatgtatgatttgggggaattcaacacaaaagggaac
gatacggacacaaaatttgggacaaaagcacaattaaatctgcaattgagggctttacataacacaaatcatgatgtatcgggtgtgtgtatgaac
cataaagggtggggcagattatcaggggtgttaacagccgttgagggtagaccgtaacaatcgaataatfgaacaatcagtgatttacaatagat
cggtggacggggtgtgtgtttccaggagcgagggaactctattcaattttaaaggagatgggtttcattttgaggggaacagattggggatgaggga
ggaaataaatagaatttataaattaaagcgctaggttaaaagcgttgggactgggaagtgcttagtgagaatggtaactgattatttattgtatgca
gactgtgtttcgtatcatctgaagttgcaaaatgaaatgaaacactgggggaacccgtgtatgcggagcaataaatttagatggctttcgtttagacg
cagttaaacatattgacacatgagatgtatcttctgatttgggtaaatcatgttagaagcgaacagggaagaaatgtttacagtagctgaattatttgcga
aatgatactgtacatttaacaaattatttgggaaagttaaattataaataatctgtgttcgatgcacctcttcattataattttcattatgcttcaacagg
gaatggaaattatgatgatgaggaaattattttaaagggtacggttagtagaagaatgcacctacactgtgttactcttggatgagaatcatgattctacgcc
tggacatgacattagaactctgtgtgagctcttgggttaagccgttgccctatgcatttttaacgcgtgcagaagggtgattcctctgtttttatggag
attactatggcacaataaggaaatagtagtatgataaattccaacgttaaaggagataaattgacccaattctgacggcagaaaaactttgcatatgg
tacgcaacatgattatttagaccatcagatgtgtattggctggacaagagaaggagtagtatacatgctaattctgttttgaaccaattaatctctg
atggaccaggagatcaaaatggatgaatgttggaaaagaacaacgcaggggaaatattggtacgatattacgggcaatcaacaataatctgtaa
cgattaaataagatgatggggcgatgctcatgtaaatggggcctctgtttcaatatatgttcagaagtaa

SEQ ID NO: 166

Met Gln Tyr Phe Glu Trp Tyr Val Pro Asn Asp Gly Glu His Trp Asn Arg Leu Arg Asn Asp Ala
Glu Asn Leu Ala His Lys Gly Ile Thr Ser Val Trp Ile Pro Val Tyr Lys Gly Thr Ser Gln Asn
Asp Val Gly Tyr Gly Val Tyr Asp Val Tyr Asp Leu Gly Glu Phe Asn Gln Lys Gly Thr Ile Arg Thr
Lys Tyr Gly Thr Lys Ala Gln Leu Lys Ser Ala Ile Glu Leu His Asn Gln Asn Ile Asp Val Tyr
Gly Asp Val Val Met Asn His Lys Gly Gly Ala Asp Tyr Thr Glu Val Val Thr Ala Val Glu Val Asp
Arg Asn Asn Arg Asn Ile Glu Thr Ser Ser Asp Tyr Gln Ile Asp Ala Thr Thr Gly Phe Asp Phe Pro
Gly Arg Arg Asp Ser Tyr Ser Asn Phe Lys Trp Arg Trp His Phe Asp Gly Thr Asp Asp Glu
Gly Arg Lys Leu Asn Arg Ile Tyr Lys Phe Lys Gly Val Gly Lys Ala Trp Asp Trp Glu Val Ser Ser
Glu Asn Gly Asn Tyr Asp Tyr Leu Met Tyr Ala Asp Leu Asp Phe Asp His Pro Glu Val Ala Asn
Glu Met Lys Asn Tyr Gly Thr Trp Tyr Ala Asp Glu Leu Asn Leu Asp Phe Thr Arg Leu Asp Ala
Val Lys His Ile Asp His Glu Tyr Leu Arg Asp Trp Val Asn His Val Arg Lys Gln Thr Gly Lys Glu
Met Phe Thr Val Ala Phe Tyr Trp Gln Asn Asp Ile Arg Thr Leu Asn Asn Tyr Leu Gly Lys Val Asn
Tyr Asn Gln Ser Val Phe Asp Ala Pro Leu His Tyr Asn Phe His Tyr Ala Ser Thr Gly Asn Gly Asn
Tyr Asp Met Arg Asn Ile Leu Lys Gly Thr Val Val Glu Ser His Pro Thr Leu Ala Val Thr Leu Val
Glu Asn His Asp Ser Gln Pro Gly Gln Ser Leu Glu Ser Val Val Ser Pro Trp Lys Pro Lys Ala
Tyr Ala Phe Ile Ser Thr Arg Ala Glu Gly Tyr Pro Ser Val Phe Tyr Gly Asp Tyr Tyr Gly Thr Asn
Gly Asn Ser Ser Tyr Glu Ile Pro Thr Leu Lys Asp Lys Ile Asp Pro Ile Leu Thr Ala Arg Lys Asn
Phe Ala Tyr Ser Thr Gln His Asp Tyr Leu Asp His Pro Asp Val Ile Gly Thr Trp Arg Glu Gly Asp
Ser Ile His Ala Asn Ser Gly Leu Ala Thr Leu Ile Ser Asp Gly Pro Gly Gly Ser Lys Trp Met Asn
Val Gly Lys Asn Asn Ala Gly Glu Ile Trp Tyr Asp Ile Thr Gly Asn Gln Thr Asn Thr Val Thr Ile
Asn Lys Asp Asn Gly Glu Phe His Val Asn Gly Gly Ser Val Ser Ile Thr Val Gln Lys

SEQ ID NO: 167

atgcacaacgattgcacaaaaagggtatgaacgatgaagggaacaaatggacagcttagcttaacactgccctggtcgtactgtatca
acaggctgttaccgccgaacactgtacataaaggtaaatctccaacagcagataaaaaagggtattttatgaggtgtatgtaacctttttacgatg
caaataaagatgacatggtgtatttaaaggcttctacacaaaagggtgatttttaattgatggcaactctacacaaagaatgatttcaagtaaac
gggtatttgatgatgcccggtcaacctctctccagctatcataaattatgatgtaacggactattataattatgacccgcatgtggaacttgcgaag
atttttcgaaacttgatgaagaagcagataaacagagatgataaaactcattatggacctgtgtgtaatcatagcagcagtgtaaacacccctgtttc
aagctcattaaagaataaaaacagcaagtacagagatactatctctggcgtgataaaaataccgacttgatgaataaaggatcttggggaca
gcaatgattggcataaagccccaacggagagatttttaccggaacgttttgggaaggaaatgccggacttaattacgataactctgaagtaagaa
aagaaatgtaacgttaggaagtttggctaaagcaaggaggttgcgggttcctgatgatgctgccttcatatttttaaggccaacacacctg

Figure 16 (cont.)

aaggcgctaaagaaaaatctctgtgtgggaatgaattagagatgcaatgaaaaaggaaaaccctaacgtatatactaaacgggtggaagtatggga
tc aaccgggaagttagtgctccttactatcaatcgcttgattctttatctaactttgatttagcaggaagattgttaaactctgttaaaatcagggaatgat
caaggaaatcgcatgctgcagcagcggaacacggatgaactgttcaaatcatcaatccaataaaattgacgggtatcttttcaaccacacatgacca
aatcgcgtcgtcgtcagcagcgaagcgcgatgtgaataaaggaaacgctgcctctacttacttaccgctctcctgcgaacccggtattttat
ggtagaagaatcgcatgaccgggtgaanaagcctgatgattaatccgtgaacccgtcccgctgtacgaaggaaacggacttggacaaacacg
ctggaaacacactgtatatacaaaaaggcggaacggcgctgtctgtagaagcacaacaaacaaaggactcttgttaaatattaccgtgga
atgattccgctcgtcagcagcagcaagaagttagtaaaaaggaaacgcttcaactatttcagtagacagtaaaaggatcgttgcctatagcgcac
gtataaaggcaatcgattgacgtgtatcataattttcaaatcaaccggtaaaagtatctgtagcagcaaaaggtaaatgtattttgtgtagtga
aagggtcgtagaaggtcaaaatcagctgtgattccggcgaatacaacggttttaataaataa

SEQ ID NO: 168

Met Gln Thr Ile Ala Lys Lys Gly Asp Glu Thr Met Lys Gly Lys Lys Trp Thr Ala Leu Ala Leu Thr
Leu Pro Leu Ala Ala Ser Leu Ser Thr Gly Val His Ala Glu Thr Val His Lys Gly Lys Ser Pro Thr
Ala Asp Lys Asn Gly Val Phe Tyr Glu Val Tyr Val Asn Ser Phe Tyr Asp Ala Asn Lys Asp Gly His
Gly Asp Leu Lys Gly Leu Thr Gln Lys Leu Asp Tyr Leu Asn Asp Gly Asn Ser His Thr Lys Asn
Asp Leu Gln Val Asn Gly Ile Trp Met Met Pro Val Asn Pro Ser Pro Ser Tyr His Lys Tyr Asp Val
Thr Asp Tyr Tyr Asn Ile Asp Pro Gln Tyr Gly Asn Leu Gln Asp Phe Arg Lys Leu Met Lys Glu Ala
Lys Asp Arg Asp Val Lys Val Ile Met Asp Leu Val Val Asn His Thr Ser Ser Glu His Pro Trp Phe
Gln Ala Ala Leu Lys Asp Lys Asn Ser Lys Tyr Arg Asp Tyr Tyr Ile Trp Ala Asp Lys Asn Thr Asp
Leu Asn Glu Lys Gly Ser Trp Gly Gln Gln Val Trp His Lys Ala Pro Asn Gly Glu Tyr Phe Tyr Gly
Thr Phe Trp Glu Gly Met Pro Gly Asn Tyr Asp Asn Pro Glu Val Lys Glu Met Ile Asn Val
Gly Lys Phe Trp Leu Lys Gln Gly Val Asp Gly Phe Arg Leu Asp Ala Leu His Ile Phe Lys Gly
Gln Thr Pro Glu Gly Ala Lys Lys Asn Leu Leu Trp Trp Asn Glu Phe Arg Asp Ala Met Lys Lys
Glu Asn Pro Asn Val Tyr Leu Thr Gly Glu Val Trp Asp Gln Pro Glu Val Val Ala Pro Tyr Tyr Gln
Ser Leu Asp Ser Leu Phe Asn Phe Asp Leu Ala Gly Lys Ile Val Asn Ser Val Lys Ser Gly Asn Asp
Gln Gly Ile Ala Thr Ala Ala Ala Thr Asp Glu Leu Phe Lys Ser Tyr Asn Pro Asn Lys Ile Asp
Gly Ile Phe Leu Thr Asn His Asp Gln Asn Arg Val Met Ser Glu Leu Ser Gly Asp Val Asn Lys Ala
Lys Ser Ala Ala Ser Ile Leu Leu Thr Leu Pro Gly Asn Pro Tyr Ile Tyr Tyr Glu Glu Ile Gly Met
Thr Gly Glu Lys Trp Asp Glu Leu Ile Arg Glu Pro Phe Arg Trp Tyr Glu Gly Asn Gly Leu Gly
Thr Ser Trp Glu Thr Pro Val Tyr Asn Lys Gly Gly Asn Gly Val Ser Val Glu Ala Gln Thr Lys Gln
Lys Asp Ser Leu Leu Asn His Tyr Arg Glu Met Ile Arg Val Arg Gln Gln His Glu Glu Leu Val Lys
Gly Thr Leu Gln Tyr Ser Ile Val Asp Ser Lys Glu Val Val Ala Trp Ser Arg Thr Tyr Lys Lys
Ser Ile Ser Val Tyr His Asn Ile Ser Asn Gln Pro Val Lys Val Ser Val Ala Ala Lys Gly Lys Leu Ile
Phe Gly Ser Glu Lys Gly Ala Lys Lys Val Lys Asn Gln Leu Val Ile Pro Ala Asn Thr Thr Val Leu
Ile Lys

SEQ ID NO: 169

atgaaaactcaataataaacgcactttttaccgctaaccctgtctcagtcgctcgtccttctgtggcaaaaatggccacatgatgcagattttt
cattgtgatgtacctaattgatggcgattatggacgcagggtgaagacaaatgctccagcactcgtgaaaacgggttttacagcgctctgctacc
gccagcttcaaaaggcggggcgcgagatgaacgtcgggttatggcgctatgatattgacgatttgggtgagtttgcataaaaaggctcagatc
gaaccaaatatcggcaccagctcgtcagatcatctctgcaatcaatgccgcgcacacaacaaatccaattctacggcgatgtgtgttaaacac
cgaggtgtgtcgtgatgggaactcgtgggtcgataccaagcgcgttgattgggacaaccgttaacattgaactggcgcaaatggattgaagct
tgggttgagtttaattttctggcgccaacgacaaataactcaaacctccattggacttggatcactttgacgggtgttgactgggaatgatgcggca
agaaaaggcgatcctttaaattcaaggcggaagaaaagcatgggattgggaagtcacgtctgaaaaaggcgaattcagactacctaattgatcgc
cgatttgaacattggatcccaagaagttaaacaaagagctgaagaagtgggtgtagtgcacatcaacatgaccggcggtgatgtgttgaagt
gatgcggtgaagcacataataatcagtagtacaagaagtggtgatgattcattcgttggaaaacaggcgaagagcttttaccggttggtagatt
ggaattacgagtaaaatcaactgcataacttattactaagaaccttggcagatgctgtgttcgatgcgccgttcacatgaacttctacaacggc
tcaaatcttgcggccaatttcagatagtcgcaaatcatgaatggcagcttgatgaaggacaaccagtcgaacgtgtgactctctgtagaaaac
acgatatacagccattcagcggcgtagagtcgacagtggaattgtgtgttcgaagccctctgcttacgcattcattttattcgtgtagaagaggttatcc
atcagttgttctacgcagattactacggcgcgatcacgcgcaaaaggctacaacatcaaatatggcgaagtctctacattgaagaactgtgaa

Figure 16 (cont.)

cactgcgtaaagagtagtgcgtatggcacaagaattcttatctcgaccactggtagtgattggctggaccgcagagggcgcatgctgaacatcc
aaactcaatgcgggtgatcatgagtgcacaggtggcacaanaatggatgtataccggccaagcaacgcgcctatgctgcacaaactgg
gtatccgaactgaaagattggaccgataccaatggctggcgcaagaattccctgtaactgggtgttcagtctcggttgggtggcggttaagtaa

SEQ ID NO: 170

Met Lys Thr Phe Lys Leu Lys Arg Thr Phe Leu Pro Leu Thr Leu Leu Ser Ala Pro Ala Phe Ala
Gly Gln Asn Gly Thr Met Met Gln Tyr Phe His Trp Tyr Val Pro Asn Asp Gly Ala Leu Trp Thr Gln
Val Glu Ser Asn Ala Pro Ala Leu Ala Glu Asn Gly Phe Thr Ala Leu Trp Leu Pro Pro Ala Tyr Lys
Gly Ala Gly Gly Ser Asn Asp Val Gly Tyr Gly Val Tyr Asp Met Tyr Asp Leu Gly Glu Phe Asp
Gln Lys Ser Val Arg Thr Lys Tyr Gly Thr Lys Ala Gln Trp Ile Ser Ala Ile Asn Ala Ala His
Asn Asn Asn Ile Gln Ile Tyr Gly Asp Val Val Phe Asn His Arg Gly Gly Ala Asp Gly Lys Ser Trp
Val Asp Thr Lys Arg Val Asp Trp Asp Asn Arg Asn Ile Glu Leu Lys Trp Ile Glu Ala Trp
Val Glu Phe Asn Phe Pro Gly Arg Asn Asp Lys Tyr Ser Asn Phe His Trp Thr Trp Tyr His Phe Asp
Gly Val Asp Trp Asp Ala Gly Lys Glu Lys Ala Ile Phe Lys Phe Lys Gly Glu Lys Ala Trp
Asp Trp Glu Val Ser Ser Glu Lys Gly Asn Tyr Asp Tyr Leu Met Tyr Ala Asp Leu Asp Met Asp
His Gln Glu Val Lys Gln Glu Leu Lys Asp Trp Gly Glu Trp Tyr Ile Asn Met Thr Gly Val Asp Gly
Phe Arg Met Asp Ala Val Lys His Ile Lys Tyr Gln Tyr Leu Gln Glu Trp Ile Asp His Leu Arg Trp
Lys Thr Gly Lys Glu Leu Phe Thr Val Gly Glu Tyr Trp Asn Tyr Asp Val Asn Gln Leu His Asn
Phe Ile Thr Lys Thr Ser Gly Ser Met Ser Leu Phe Asp Ala Pro Leu His Met Asn Phe Tyr Asn Ala
Ser Lys Ser Gly Gly Asn Tyr Asp Met Arg Gln Ile Met Asn Gly Thr Leu Met Lys Asp Asn Pro Val
Lys Ala Val Thr Leu Val Glu Asn His Asp Thr Gln Pro Leu Gln Ala Leu Glu Ser Thr Val Asp Trp
Trp Phe Lys Pro Leu Ala Tyr Ala Phe Ile Leu Leu Arg Glu Glu Gly Tyr Pro Ser Val Phe Tyr Ala
Asp Tyr Tyr Gly Ala Gln Tyr Ser Asp Lys Gly Tyr Asn Ile Asn Met Ala Lys Val Pro Tyr Ile Glu
Glu Leu Val Thr Leu Arg Lys Glu Tyr Ala Tyr Gly Lys Gln Asn Ser Tyr Leu Asp His Trp Asp Val
Ile Gly Tyr Thr Arg Glu Gly Asp Ala Glu His Pro Asn Ser Met Ala Val Ile Met Ser Asp Gly Pro
Gly Gly Lys Lys Trp Met Tyr Thr Gly Lys Pro Ser Thr Tyr Val Asp Lys Leu Gly Ile Arg Thr
Glu Glu Val Trp Thr Asp Thr Asn Gly Trp Ala Glu Phe Pro Val Asn Gly Gly Ser Val Ser Val Trp
Val Gly Val Lys

SEQ ID NO: 171

gtgatgataaactcttttcatgatgcaaaaagaatggacatgggtgatttaaaaggctcttacacaaaagtggattttaaattgatggcaattctcata
caagaagtatcttcaagtaaacgggatttggatgatccgggtcaacccctctccacgctacataaattgatgtaacggcattataaattgat
ccgcagatgtgaagatctgcaagattttcgcacaaatgatgaagaagacgataaaccgagatgataaagtcattatggacctctgttggtaacatac
gagcagatgaacacccctgtttcaagctgcattaaaaagataaaaacagcaagtacagagattactatctcggcgatataaaaatacgcattga
atgaaaaaggatcttggggacagcaagtaggcataaaggccccaaacggagagtagtattttacggaaaccttgggaaggaaatgccggacttaaa
ttacgataatcctgaagtaagaaagaaatgattaacgtaggaagattttggctaagcaaggagtgacgggttcctgctacgatgctgcgcttca
tattttttaagggccaaacacctcgaaggcgctgaagaaaaatctctcgtggtggaatgaattagatgcaatgaaaaaggaaaacccctaacgtat
atctaacgggtgaagtatggatcaaccgggaagttagctccttactactcaatcgttgatcttatttaacttattgatttagcaggaaagattgtaa
acctgtataaatcaggaatgatcaagggaatcgacgtacgacagcggcgaacggatgaactgttcaatcatacaatccaaataaaattgaagg
tatttttcttaaccaacatgaccaaaatcgctcatgagtgaactaaagcggcgatgtgaataaagcaaaagtcagctgcctctatcttacttactgt
cctggcgaacccgtatatttattacgttgaaagaatcggcatgacccggtgaaagccctgatgagtaatcctgtaacccgttcctcgtgtacgaagg
aaacggacttggacaaccagctgggaaaacacctgtatacaacaaaggcgcaacggcggtgtctgtagaagcaacaacaaaaaaaggac
ctttgttaaatcattaccgtgaaatgattcggctgcgcagcagcaagaagttagtaaaaaggacgcttcaatctatttctcagtagacagtaaa
aagctgttgcctatagccgcagctataaaggcaaacgattagcgtgtatcataattttcaatcaaccggtaaaaagtatctgtgacgacgaaaa
gtaaattgtatttttgtagtgaaaaaaggctgaataaagtcacaaatcagcttggatctgcggcgaatacaacagggtttaaataaaataa

SEQ ID NO: 172

Val Tyr Val Asn Ser Phe Tyr Asp Ala Asn Lys Asp Gly His Gly Asp Leu Lys Gly Leu Thr Gln
Lys Leu Asp Tyr Leu Asn Asp Gly Asn Ser His Thr Lys Asn Asp Leu Gln Val Asn Gly Ile Trp
Met Met Pro Val Asn Pro Ser Pro Ser Tyr His Lys Tyr Asp Val Thr Asp Tyr Tyr Asn Ile Asp Pro

Figure 16 (cont.)

Gln Tyr Gly Asn Leu Gln Asp Phe Arg Lys Leu Met Lys Glu Ala Asp Lys Arg Asp Val Lys Val
 Ile Met Asp Leu Val Val Asn His Thr Ser Ser Glu His Pro Trp Phe Gln Ala Ala Leu Lys Asp Lys
 Asn Ser Lys Tyr Arg Asp Tyr Tyr Ile Trp Ala Asp Lys Asn Thr Asp Leu Asn Glu Lys Gly Ser Trp
 Gly Gln Gln Val Trp His Lys Ala Ala Pro Asn Gly Glu Tyr Phe Thr Gly Thr Phe Trp Glu Gly Met Pro
 Asp Leu Asn Tyr Asp Asn Pro Glu Val Arg Lys Glu Met Ile Asn Val Gly Lys Phe Trp Leu Lys
 Gln Gly Val Asp Gly Phe Arg Leu Asp Ala Ala Leu His Ile Phe Lys Gly Gln Thr Pro Gln Gly Ala
 Lys Lys Asn Leu Leu Trp Trp Asn Glu Phe Arg Asp Ala Met Lys Lys Glu Asn Pro Asn Val Tyr
 Leu Thr Gly Glu Val Trp Asp Gln Pro Glu Val Val Ala Pro Tyr Tyr Gln Ser Leu Asp Ser Leu Phe
 Asn Phe Asp Leu Ala Gly Lys Ile Val Asn Ser Val Lys Ser Gly Asn Asp Gln Gly Ile Ala Thr Ala
 Ala Ala Ala Thr Asp Glu Leu Phe Lys Ser Tyr Asn Pro Asn Lys Ile Asp Gly Ile Phe Leu Thr Asn
 His Asp Gln Asn Arg Val Met Ser Glu Leu Ser Gly Asp Val Asn Lys Ala Lys Ser Ala Ala Ser Ile
 Leu Leu Thr Leu Pro Gly Asn Pro Tyr Ile Tyr Tyr Gly Glu Glu Ile Gly Met Thr Gly Glu Lys Pro
 Asp Glu Leu Ile Arg Glu Pro Phe Arg Trp Tyr Glu Gly Asn Gly Leu Gly Gln Thr Ser Trp Glu Thr
 Pro Val Tyr Asn Lys Gly Gly Asn Gly Val Ser Val Glu Ala Gln Thr Lys Gln Lys Asp Ser Leu Leu
 Asn His Tyr Arg Glu Met Ile Arg Val Arg Gln Gln His Glu Glu Leu Val Lys Gly Thr Leu Gln Ser
 Ile Ser Val Asp Ser Lys Glu Val Val Ala Tyr Ser Arg Thr Tyr Lys Gly Lys Ser Ile Ser Val Tyr His
 Asn Ile Ser Asn Gln Pro Val Lys Val Ser Val Ala Ala Lys Gly Lys Leu Ile Phe Gly Ser Glu Lys
 Gly Ala Lys Lys Val Lys Asn Gln Leu Val Ile Pro Ala Asn Thr Thr Val Leu Ile Lys

SEQ ID NO: 173

atgcaaacgattgcacaaaaaggggatgaacacgatgaaggaaagggacacgctttagctctaacacgcgcgtgctgactgtatca
 acaggcgttcacgcgaacacgtgatcataaagctaaagctccaacagcagataaaaacgggtttttatgaaggtgatgtaaacctcttttcatgatg
 caataaagatggacatggtgatttaaaaggcttcacacaaaagggtgattatttaaatgacgcgaattctcatcaaaaagaatgattctcaagataa
 cgggatttggatgatgcgcgtgtaaacctcttctcactcatcataaataatgatgtaacggacattataacaattgatcctcagtcaggaagtcgca
 gatttcgcacaaactgatgaagaagcagataaacgagacgtaaaagttatttgacactgtgttggaatcatagcagacgtgaacaccccttggtt
 caagctgcactaaaagataaaaacagcaagatgacagagattactattttggcgtgataaaaataccggttgaatgaaaaggatcttggggaca
 gcaagtatggcataaagctccaacgcgagatatttttggacgtcttctgggaagggaatgcctgacttaaaatcagataaaccttgaagttaagaa
 aagaatgatttaacgtcgaaagttttggctaaagcaaggcgttgatgcttcctgccttagatgctgccttcataatctttaaaggctcaaacctcctga
 aggcgtcagaaaaaatctctgtgttggaatgattagatgacatgaaaaagaaaaacccctcaactatctatcaacgggtggaagtatggat
 cagcgggaagttagctccttattatcaatcgcctgattccctatttaactttgatttagcaggaaaaattgtcagctctgtaaaaagcaggaatgat
 caaggaaatcgcaactgcagcagcggaacacgatgagctgticaaatcatataatccaataaaattgacggcattttcttaaccaacatgacca
 aaaccgctcatgaatgacgaacgggaatgtgaataaagcaaaaatcagctgcttctatcttacttaccgcttctggaatccgtatatttattacg
 gtgaagaatttgcatgaccgtgtaaaaagcctgatgaattatccgtgacccgttccgctggtagcagaagcgaacggaattggacaaaactagct
 gggaaaacacctgtatatacaaaaaggcgccaatggtgtgtctgtgaagcacaacacaaaaggattctttgttaaatcattaccgtgaaatg
 attcgcgtgctgacgacgacgaagaagttagtaaaaggaacgcttcagctctatttcagtagacagataaagaagtgtgcgcttataccgctacgtat
 aaagcgaactcattatgtgtgtatcataattttcaaatcaacctgtataaagtagtctgtagcggcgaaaggtaaatgtatttttgcagtgtaaaaagg
 tgcataaaaaggcaaaaatcagctgtgtattccggcggaatgcgacgggtttataaaaataa

SEQ ID NO: 174

Met Gln Thr Ile Ala Lys Lys Gly Asp Glu Thr Met Lys Gly Lys Lys Trp Thr Ala Leu Ala Leu Thr
 Leu Pro Leu Ala Ala Ser Leu Ser Thr Gly Val His Ala Glu Thr Val His Lys Gly Lys Ala Pro Thr
 Ala Asp Lys Asn Gly Val Phe Tyr Glu Val Tyr Val Asn Ser Phe Tyr Asp Ala Asn Lys Asp Gly His
 Gly Asp Lys Lys Gly Leu Thr Gln Lys Leu Asp Tyr Leu Asn Asp Gly Asn Ser His Thr Lys Asn
 Asp Leu Gln Val Asn Gly Ile Trp Met Met Pro Val Asn Pro Ser Pro Ser Tyr His Lys Tyr Asp Val
 Thr Asp Tyr Asn Ile Asp Pro Gln Tyr Gly Ser Leu Gln Asp Phe Arg Lys Leu Met Lys Glu Ala
 Asp Lys Arg Asp Val Lys Val Ile Met Asp Leu Val Val Asn His Thr Ser Ser Glu His Pro Trp Phe
 Gln Ala Ala Leu Lys Asp Lys Asn Ser Lys Tyr Arg Asp Tyr Tyr Ile Trp Asp Glu Asp Lys Asn Thr Asp
 Leu Asn Gln Lys Gly Ser Trp Gly Gln Gln Val Trp His Lys Ala Pro Asn Gly Tyr Phe Tyr Gly
 Thr Phe Trp Glu Gly Met Pro Asp Leu Asn Tyr Asp Asn Pro Glu Val Arg Lys Glu Met Ile Asn Val
 Gly Lys Thr Phe Trp Leu Lys Gln Gly Val Asp Gly Phe Arg Leu Asp Ala Leu His Ile Phe Lys Gly

Figure 16 (cont.)

Gln Thr Pro Glu Gly Ala Lys Lys Asn Leu Leu Trp Trp Asn Glu Phe Arg Asp Ala Met Lys Lys
 Glu Asn Pro Asn Val Tyr Leu Thr Gly Glu Val Trp Asp Gln Pro Glu Val Val Ala Pro Tyr Tyr Gln
 Ser Leu Asp Ser Leu Phe Asn Phe Asp Leu Ala Gly Lys Ile Val Ser Ser Val Lys Ala Gly Asn Asp
 Gln Gly Ile Ala Thr Ala Ala Ala Thr Asp Glu Leu Phe Lys Ser Tyr Asn Pro Lys Ile Asp
 Gly Ile Phe Leu Thr Asn His Asp Gln Asn Arg Val Met Ser Glu Leu Ser Gly Asp Val Asn Lys Ala
 Lys Ser Ala Ala Ser Ile Leu Leu Thr Leu Pro Gly Asn Pro Tyr Ile Tyr Tyr Gly Glu Glu Ile Gly Met
 Thr Gly Glu Lys Pro Asp Glu Leu Ile Arg Glu Pro Phe Arg Trp Tyr Glu Gly Asn Gly Ile Gly Gln
 Thr Ser Trp Glu Thr Pro Val Tyr Asn Lys Gly Gly Asn Gly Val Ser Val Glu Ala Gln Thr Lys Gln
 Lys Asp Ser Leu Leu Asn His Tyr Arg Glu Met Ile Arg Val Arg Gln Gln His Glu Glu Leu Val Lys
 Gly Thr Leu Gln Ser Ile Ser Val Asp Ser Lys Glu Val Val Ala Thr Ser Gln Thr Tyr Lys Gly Asn
 Ser Ile Ser Val Tyr His Asn Ile Ser Asn Gln Pro Val Lys Val Ser Val Ala Ala Lys Gly Lys Leu Ile
 Phe Ala Ser Glu Lys Gly Ala Lys Lys Gly Lys Asn Gln Leu Val Ile Pro Ala Asn Ala Thr Val Leu
 Ile Lys

SEQ ID NO: 175

atgaaaaataataacgactttgtgtgccagcgctatcctcacggtgtccacgccagttacgccgacgaattttacacgcgttttaactggcaat
 ataccgatgtaaccgccaaatgcaaatcaaatgccgcaaatggtcttaaaaaagctctattcaccgccaatgaatcaccgaggcagtgcaatgg
 tgggccccgctatcaaccgcaagacttgcgtgcatgtattctcctggtggcaacaacaagatttagtcgcatgatcaatgcgctcaacagcgt
 tggggtgacgtgtatgtcagctgggtgcttaacatattggctaacgacgtcatggaagcgcagtgacctgaactaccggggagtgagggtct
 caacgactatcaatccgcagtgctactatcaaaagcaaacattttcggcaatttacagggaacaccttttccgagaatgatttaccacggca
 ggtgtattatcaaatggaaatgatctggccaagtcagatttggcgcttggcgccgagacagggcgatgacggtaccggaatcgcagctca
 tcaatgggtgtgagtcagcagaagaatttctgaacgcactcaaatcaatgggaatcaaaaggttccglatcgatgctgcgtcaacatgatgac
 aatacaaatagacaaagtgtttatccccagacataccgctggtatgcatatattcggagaagtcattaccagtggtggccaagtgtatagcggct
 atgagcttttcttgccttacccttaataataacgatcacgcgcgttatgacttcccgctattgcatctgattcgagccgcttttcttctctgtgg
 gtttaaacagctacacatcccaagacgtatggccaagcgttacaggactacgctgcgacacctttacgatattaccacgacattcccaaatg
 acggttttccgctacagatcatggatccaacgatgaacagctgcctatgctcatcttggccaagaatgaggagaacgccattgtctatagt
 gatgacctacctgacagcgaagacaaagacagtggctgttggccgatgtgtgccaagatccgaacatgattaacatgcttgccttcacaaag
 cgtgcaaggaacaaagcatgactgtagtgtgctagcgcacatgacgttactgtatttaagcgcggcaagcaagcgtggttaggaatcaataatg
 tggcgagagtagtgcgtgactgtcgatacttaccagcatgagttaactgtacaccccgtaccaagacgtattgagcggcgacatcaccaca
 gtgagttctgcttaccacaaattgttttgcagcgcgcagtgcaaggatgtggaactataa

SEQ ID NO: 176

Met Lys Asn Ile Ile Arg Leu Cys Ala Ala Ser Ala Ile Leu Thr Val Ser His Ala Ser Tyr Ala Asp Ala
 Ile Leu His Ala Phe Asn Trp Gln Tyr Thr Asp Val Thr Ala Asn Ala Asn Gln Ile Ala Ala Asn Gly
 Phe Lys Lys Val Leu Ile Ser Pro Ala Met Lys Ser Ser Gly Ser Gln Trp Trp Ala Arg Tyr Gln Pro
 Gln Asp Leu Arg Val Ile Asp Ser Pro Leu Gly Asn Lys Gln Asp Leu Val Ala Met Ile Asn Ala Leu
 Asn Ser Val Gly Val Asp Val Tyr Ala Asp Val Val Leu Asn His Met Ala Asn Glu Ser Trp Lys Arg
 Ser Asp Leu Asn Tyr Pro Gly Ser Glu Val Leu Asn Asp Tyr Gln Ser Arg Ser Ala Tyr Tyr Gln Arg
 Gln Thr Leu Phe Gly Asn Leu Gln Glu Asn Leu Phe Ser Glu Asn Asp Phe His Pro Ala Gly Cys Ile
 Thr Asn Trp Asn Asp Pro Gly His Val Gln Tyr Trp Arg Leu Cys Gly Gln Gly Asp Thr Gly Thr
 Leu Pro Asp Leu Asp Pro Asn Gln Trp Val Val Ser Gln Gln Lys Ser Tyr Leu Asn Ala Leu Lys Ser
 Met Gly Ile Lys Gly Phe Arg Ile Asp Ala Val Lys His Met Ser Gln Tyr Gln Ile Asp Gln Val Phe
 Thr Pro Asp Ile Thr Ala Gly Met His Ile Phe Gly Glu Val Ile Thr Ser Gly Gly Gln Gly Asp Ser Gly
 Tyr Glu Ala Phe Leu Ala Pro Tyr Leu Asn Asn Thr Asp His Ala Ala Tyr Asp Phe Pro Leu Phe Ala
 Ser Ile Arg Ala Ala Phe Ser Phe Ser Gly Gly Leu Asn Gln Leu His Asn Pro Gln Ala Tyr Gly Gln
 Ala Leu Gln Asp Ser Arg Ala Ile Thr Phe Thr Ile Thr His Asp Ile Pro Thr Asn Asp Gly Phe Arg
 Tyr Gln Ile Met Asp Pro Thr Asp Glu Gln Leu Ala Tyr Ala Tyr Ile Leu Gly Lys Asp Gly Gly Thr
 Pro Leu Val Tyr Ser Asp Asp Leu Pro Asp Ser Glu Asp Lys Asp Ser Gly Arg Trp Ala Asp Val Trp
 Gln Asp Pro Asn Met Ile Asn Met Leu Ala Phe His Asn Ala Met Gln Gly Gln Ser Met Thr Val Val
 Ala Ser Asp Gln Cys Thr Leu Leu Phe Lys Arg Gly Lys Gly Val Gly Val Ile Asn Lys Cys Gly

Figure 16 (cont.)

Glu Ser Lys Ser Val Thr Val Asp Thr Tyr Gln His Glu Phe Asn Trp Tyr Thr Pro Tyr Gln Asp Val
Leu Ser Gly Asp Ile Thr Val Val Ser Ser Arg Tyr His Gln Phe Val Leu Pro Ala Arg Ser Ala Arg
Met Trp Lys Leu

SEQ ID NO: 177

atgaaaaattcaaaattaaacgcacattttaccgctgacctgtctgctcagtgctcctgcttgcgggcaaaatggcaccatgatgcagtttt
cattggtacgtactaatgatggcgccattatggacgcaggttgaaagcaatgctcagctacgtctgctgaaacgggtttacagcgctctgctac
gccgcatacaaaaggcgccggcggaatgacgtcgggtatggcgctctatgatatgtacgatttaggtgagtttgaccaaaaaggctcagta
gcaaccaaatcagccaccaggcctcagtcacatctctgcaatcaatgccgcgcacacaacaataccaaattacggcgacggttggtttaacca
ccgaggtggcgctgagtggaagctctggctgcataccaagcgcgtgtgattggggacaaccgcgaataatgtgaactggcgcaaaatggattgaag
cttgggttgagtttaatttccctggccgaacgcacaaatactcgaaacttccattggactttggtatcactttgacgggtgttgactggagatgcgcgc
aaagaaaaagcgatcttfaatitcaaaaggcgaaaggaaagcatgggattgggaagtcagctctgaaaaggcaattacgactactctaattgatc
gccgatttagacatggatcacccagaaggttaacaagagctgaaagattggggtgagtggtacatcaacatgaccggcggttgatggccttagaa
tggatggcggtgaagcacatttaaatcatgatactacaagagtgattgatcattatgttgaaacaggcgaaagagctttcacccgttggtgagta
ttggaaatcagctgaataactcaactgcacaactttattactaagaccctctggcagatgtctgtgttcgatggcgccgcttcacatgaatttctacaacgc
gticaaaatctggcgacattacgatatgcgccaaatcatgaatggcacgttgatgaaggacaaccagtcacaaagcagtgactctctgtagaaaac
cagcatagccagccattgacaggcgttagatgctgacagtagattgggtgttcaagccctctgttaccgcatctattttatgctgtagaagaaggtttac
catcggtgttctacgcagattactacggcgccgagtcacagcgcaaaaggttacaacatttaattggcacaaggttgccttaccattgaagaactgttaa
cactgcgtgaagaagtatgcgtatggcaaacgaattcttactctgaccattgggagtgattggctggaccggcgaaggcgcatgctgaacatcc
aaactcaatgcgggtgatcatgagtgatggaccggcgccgaacaaatgggatgataccggtaagccaagtacgcgctatgctgacaaagctgg
ctgcgcgaactgaagatgttggaccgatgccaatggctggcgcaaatcttcgttcaatgggtggttcagctcgggttgggtggcggttaagtaa

SEQ ID NO: 178

Met Lys Thr Phe Lys Lys Lys Arg Thr Phe Leu Pro Leu Thr Leu Leu Ser Ala Pro Ala Phe Ala
Gly Gln Asn Gly Thr Met Met Gln Tyr Phe His Trp Tyr Val Pro Asn Asp Gly Ala Leu Trp Thr Gln
Val Gln Ser Asn Ala Pro Val Leu Ala Glu Asn Gly Phe Thr Ala Leu Trp Leu Pro Pro Ala Tyr Lys
Gly Ala Gly Gly Ser Asn Asp Val Gly Tyr Gly Val Tyr Asp Met Tyr Asp Leu Gly Glu Phe Asp
Gln Lys Gly Ser Val Arg Thr Lys Tyr Gly Thr Lys Ala Gln Tyr Ile Ser Ala Ile Asn Ala Ala His
Asn Asn Asn Ile Gln Ile Tyr Gly Asp Val Val Phe Asn His Arg Gly Phe Ala Asp Gly Lys Ser Trp
Val Asp Thr Lys Arg Val Asp Trp Asp Asn Arg Asn Ile Glu Leu Gly Asp Lys Trp Ile Glu Ala Trp
Val Glu Phe Asn Phe Pro Gly Arg Asn Asp Lys Tyr Ser Asn Phe His Trp Thr Trp Tyr His Phe Asp
Gly Val Asp Trp Asp Asp Ala Gly Lys Glu Lys Ala Ile Phe Lys Phe Lys Gly Lys Glu Lys Ala Trp
Asp Trp Gly Val Ser Ser Glu Lys Gly Asn Tyr Asp Tyr Leu Met Tyr Ala Asp Leu Asp Met Asp
His Pro Glu Val Lys Gln Glu Leu Lys Asp Trp Gly Glu Trp Tyr Leu Met Thr Gly Val Asp Gly
Phe Arg Met Asp Ala Val Lys His Ile Lys Tyr Gln Tyr Leu Gln Glu Trp Ile Asp His Leu Arg Trp
Lys Thr Gly Lys Glu Leu Phe Thr Val Gly Glu Tyr Trp Asn Tyr Asp Val Asn Gln Leu His Asn
Phe Ile Thr Lys Lys Thr Ser Met Ser Leu Phe Asp Ala Pro Leu His Met Asn Phe Tyr Asn Ala
Ser Lys Ser Gly Gly Thr Tyr Asp Met Arg Gln Ile Met Asn Gly Thr Leu Met Lys Asp Asn Pro Val
Lys Ala Val Thr Leu Val Glu Asn His Asp Thr Gln Pro Leu Gln Ala Leu Glu Ser Thr Val Asp Trp
Trp Phe Lys Pro Leu Ala Tyr Ala Phe Ile Leu Leu Arg Glu Glu Gly Tyr Pro Ser Val Thr Tyr Ala
Asp Tyr Tyr Gly Ala Gln Tyr Ser Asp Lys Gly Tyr Asn Ile Asn Met Ala Lys Val Pro Tyr Ile Glu
Glu Leu Val Thr Leu Arg Lys Glu Tyr Ala Tyr Gly Lys Gln Asn Ser Tyr Leu Asp His Trp Asp Val
Ile Gly Trp Thr Arg Gly Asp Ala Glu His Pro Asn Ser Met Ala Val Ile Met Ser Asp Gly Pro
Gly Gly Thr Lys Trp Met Tyr Thr Gly Lys Pro Ser Thr Arg Tyr Val Asp Lys Leu Gly Ile Arg Thr
Glu Asp Val Trp Thr Asp Ala Asn Gly Trp Ala Glu Phe Pro Val Asn Gly Gly Ser Val Ser Val Trp
Val Gly Val Lys

SEQ ID NO: 179

atgaaaaattcaaaattaaacgcacattttaccgctgacctgtctgctcagtgctcctgcttggcgggcaaaatggcaccatgatgcagttactt
ctattgttgcacacctaatgatggcgattatggacgcaggttgaaagcaatgctccagcactcgtgaaacgggtttacagcgctctgctcact

[illegible]

SEO ID NO: 180

SEO ID NO: 181

SEQ ID NO: 181

ttcgagagagccttcggcggcgccattacgcgcgtacatagccggcgggggaggtgtgtggcggtgtgcgcggcgccggcagcctgccgatgc
cggtctctccattcgccggcggttcattctgtctgcgcgttcctgtccggccgtatccgaacacacgaacacccggacgtatgcgtatgcggcgaca
ccctggcgagccgctgatttcggcgatctctgcgtctgtcccgccatcgtgacagacggcgccgaagagccggcgccgctgtgcgtaccaca
cgcgccggcgacaacatctctcaggggcttcattcgatgcgaagctgtcccggaagcgcccaacgacgtggtaaacatctcttcgccagcagcct
cgacgatcgccgcggagcgtcttcgcgaactctgatctgacgtgcgcgttcggcggtgacatcttcacagtcgacgcagcgccggaacttcaggcg
cgccgaaggctactcttgcgcacgacttcaacaagaacgcgcgtacggcagcagcagtcgacgtgcgcggccgcgcgcgaactcgtggcg
cgccggcggtgaaggtctgctacgatgtgtgtgcccaatcatgaacgcgcgtatccggacaggaagatcaaacctgcggccggccggcagggc
cttcggcgcaacgacgcgcacgacggcgccaattcccaacgacgactgacgatgcgtgacgcgtctatccggcggaagctggacatcgaca
ccggacatccagatctacgcatgttttcgcagagatcgtccactgcgcagcggatgcgcggcgccggcgccggcgcttgactgtctgtc

Figure 16 (cont.)

ggcgctatgcgccgaacggctgacagctggatgagcgacagcgccgacagcagtttctcggttgcgagctgtggaanaagccgtccga
gtaccggagctgggactggcgcaaacggcgagctggcgacagatcatcaaggactgttccgaccgggccaagtgcccggtgtgacttc
gcgctcaaggagcgcatgcagaacggctggctggcgactgggaagcatggcctcaatggcaaccggaccgcgctggcgcgagggtggc
ggtgacctttgtgcacaaccagacacggctatttcgccggcgagaacggcgccagcaccactggcgctgcagagacgggctgatccg
ccaggcgctacgctacatctccacagccggcgacggcggtggtgactgtgtgcacatgtacgactggggtacggcgacttatttcgca
cgtgatcgcagctggcgacacggctggcggtggcgccgatttcggcgatcagcttcacagcggttaccagcggtctgtctaccgtcagc
ggcagccatcagacacggctggctggcgctcaactcgaatcgaatcggcgccagcggttcgacggcggttcagcgagcggttcaac
ggcagcaacggcgaggtggcggtctggcgcgagcggttagcgcgcgatggcgggcgcaatgacggcgggcgagggcggtctgttcaatgtga
cttcgcgtcagcaaacggcggtgacagatggcgacagcgctacgggtggcgcaacgtcagcagctcggaactggagcccgccgtc
cgcggtacggcgacacagcagactatccgacctggaaaggcgacatcgccctgcctgacggcgcaacgtcggaatggaggtgctg
atccgtaacgagggcgagcgcagcgtgtgtgcgcagtggtgcaatcggcgggcaacaccaggtccagcccgctcgccggcgagcacca
cgcgctcgttctga

SEQ ID NO: 182

Met Pro Glu Ala Phe Gly Leu Ala Ile Thr Pro Ser His Ser Arg Arg Gly Arg Leu Val Gly Val Ser
Arg Gly Gly Ser Leu Pro Met Pro Val Leu His Trp Pro Ala Phe Ile Leu Val Arg Arg Phe Val Ala
Gly His Pro Asn Lys His Lys Asn Arg Ser Ile Ala Met Ser His Thr Leu Arg Ala Val Leu Ala
Ala Ile Leu Leu Pro Phe Pro Ala Leu Ala Asp Gln Ala Gly Ser Pro Ala Gly Val Arg Trp Thr His
Gly Gly Asp Glu Ile Ile Leu Gln Gly Phe His Trp Asn Val Val Arg Glu Ala Pro Asn Asp Trp Tyr
Asn Ile Leu Arg Gln Gln Ala Ser Thr Ile Ala Ala Asp Gly Phe Ser Ala Ile Trp Met Pro Val Pro Trp
Arg Asp Phe Ser Ser Trp Thr Asp Gly Lys Ser Gly Gly Gly Tyr Phe Thr Phe Thr His Asp Phe
Asn Lys Asn Gly Arg Tyr Gly Ser Asp Ala Gln Leu Arg Gln Ala Ala Gly Ala Leu Gly Gly Ala
Gly Val Lys Val Leu Tyr Asp Val Val Pro Asn His Met Asn Arg Gly Tyr Pro Asn Lys Glu Ile Asn
Leu Pro Ala Gly Gln Gly Phe Thr Arg Asn Asp Cys Thr Asp Pro Gly Asn Tyr Pro Asn Asp Cys
Asp Asp Gly Asp Arg Phe Ile Gly Gly Lys Ser Asp Leu Asn Thr Gly His Pro Gln Ile Tyr Gly Met
Phe Arg Asp Glu Leu Ala Asn Leu Arg Ser Gly Tyr Gly Ala Gly Gly Phe Arg Phe Asp Phe Val
Arg Gly Tyr Ala Pro Glu Arg Val Asp Ser Trp Met Ser Asp Ser Ala Asp Ser Ser Phe Cys Val Gly
Glu Leu Tyr Lys Ser Pro Ser Glu Tyr Pro Ser Trp Asp Trp Arg Asn Thr Ala Ser Trp Gln Gln Ile Ile
Lys Asp Trp Ser Asp Arg Ala Lys Cys Pro Val Phe Asp Phe Ala Leu Lys Glu Ser Met Gln Asn
Gly Ser Val Ala Asp Trp Lys His Gly Leu Asn Gly Asn Pro Asp Pro Arg Trp Arg Glu Val Ala Val
Thr Phe Val Asp Asn His Asp Thr Gly Tyr Ser Pro Gly Gln Asn Gly Gly Gln His His Trp Ala Leu
Gln Asp Gly Leu Ile Arg Gln Ala Tyr Ala Tyr Ile Leu Thr Ser Gly Thr Pro Val Tyr Trp Thr Ser
His Met Tyr Asp Trp Gly Tyr Gly Asp Phe Ile Arg Gln Leu Ile Gln Val Arg Thr Ala Gly Val
Arg Ala Asp Ser Ala Ile Ser Phe His Ser Gly Tyr Ser Gly Leu Val Thr Val Ser Gly Ser His Gln
Thr Leu Val Val Ala Leu Asn Ser Asp Leu Ala Asn Pro Gly Gln Val Ala Ser Gly Ser Phe Ser Glu
Ala Val Asn Ala Ser Asn Gln Gly Val Arg Val Trp Arg Ser Gly Ser Gly Asp Gly Gly Asn Asp
Gly Gly Glu Gly Gly Leu Val Asn Val Asn Phe Arg Cys Asp Asn Gly Tyr Thr Gln Met Gly Asp
Ser Val Tyr Ala Val Gly Asn Val Ser Gln Leu Gly Asn Trp Ser Pro Ala Ser Ala Val Arg Leu Thr
Asp Thr Ser Ser Tyr Trp Thr Trp Lys Gly Ser Ile Ala Leu Pro Asp Gly Gln Asn Val Glu Trp Lys
Cys Leu Ile Arg Asn Glu Ala Asp Ala Thr Leu Val Arg Gln Thr Gln Ser Gly Gly Asn Asn Gln Val
Gln Ala Ala Ala Gly Ala Ser Thr Ser Gly Ser Phe

SEQ ID NO: 183

atgcgaacgattgcacaaaaaagggatgaacgatgaagggaacaaatggacagctttagcctctaacactgccgtggctgctagcttatca
acaggcggttcacgccgaacgcacataaaggtaagtctgaagcaacagataaaaacgggtctttatgagggtgtatgtaactctttttacgata
caaatataagatggacatgggtgttataaagggtctgacacaaaagtgtgatttttaaatgacggcaattctcatcaaaagaatgatcttcaagtaaa
cgggaatttgatgcatgcaaccccttctcctgactatcataaatatgatgtaacggactattataaactatgatcctcagtcaggaaatctgcaag
attttcgaagctgatgaagaagcagacaacaggagacgtaaaagtcattatggacctgtgtgtaatcatagcagcagcgaacacccctgggtt
caagctgcattaaaaataaaaacagcaagtacagagattactattttgggctgataaaaataccgatttgaatgaaaaggatcttggggcgca
gcaagatggcataaaggctccaaaggagatattttacggaaacgttttgggaaggatgacctgacttaaatcagataacccctgaagtaagaa

Figure 16 (cont.)

aa gaaatgattacgtcggaaagttttggctaaagcaaaggcttaattggcttcgctttagatgctgcgttcattttttaaaggfcaaacacctga
agcgctctaa gaaaaatctctgtggtggaatgatttagatgcgatgaaaaa gaaaccttaacgtatatacaacgggtgaagtagtgat
cagcctgaagtggtgctcttactatcaatcgttgattcttatttatttgaattgacggaaaaattgcaagctctgttaaa gacggaaatgatc
aaaggatcgccatgcagcagcggcaacagatgaactgttcaaatctatacaatccaaataaaattgacggcatttcttcaacaaacatgaccaa
aatcgctcatgagtga gctgagcggcgatgtgaacaaagcaaaatca gctgcttcttacttactacgctcttcggcaaccgtatattttatcag
gtgaagaaattggtcagaccgggtgaaagcctgatgattatccgtgaaccattccgcttgatcgaaggaaacggacttggcaacaaactgat
gggaaacacctgtatatacaaaaggcggcgaacggcgtgctgttagaagtcacaaccaaagaaagattcttggtaaatcattatctgtaaatg
attcgtgctgcagcagcatgaaggttagtataaa ggaacgcttcaatctattttagtagacagctaaagaaattggttgcctatagtcgcacgtat
aaaggcaacctcgattagcgtgtatataaatttcaatacaacctgtaaaagtattctgtagacggaaggtaaattgattttgctagtgaaggag
tgcataaaaggtaacaaacgtgttaattctccgctaatacaacgggttataaaaaaa

SEQ ID NO: 184

Met Gln Thr Ile Ala Lys Lys Gly Asp Glu Thr Met Lys Gly Lys Lys Trp Thr Ala Leu Ala Leu Thr
Leu Pro Leu Ala Ala Ser Leu Ser Thr Gly Val His Ala Glu Thr Val His Lys Gly Lys Ser Glu Ala
Thr Asp Lys Asn Gly Val Phe Thr Glu Val Tyr Val Asn Ser Phe Tyr Asp Thr Asn Lys Asp Gly His
Gly Asp Leu Lys Gly Leu Thr Gln Lys Leu Asp Tyr Leu Asn Asp Gly Asn Ser His Thr Lys Asn
Asp Leu Gln Val Asn Gly Ile Trp Met Met Pro Val Asn Pro Ser Pro Ser Tyr His Lys Tyr Asp Val
Thr Asp Tyr Tyr Asn Ile Asp Pro Met Lys Lys Glu Asn Leu Gln Asp Phe Arg Lys Leu Met Lys Glu Ala
Asp Lys Arg Asp Val Lys Val Ile Met Asp Leu Val Val Asn His Thr Ser Ser Glu His Pro Trp Phe
Gln Ala Ala Leu Lys Asp Lys Asn Ser Lys Tyr Arg Asp Tyr Tyr Ile Trp Ala Asp Lys Asn Thr Asp
Leu Asn Gln Lys Lys Ser Lys Gly Gln Gln Val Trp His Ala Pro Asn Gly Lys Thr Phe Tyr Gly
Thr Phe Trp Glu Gly Met Pro Asp Leu Asn Tyr Asp Asn Pro Glu Val Arg Lys Glu Met Ile Asn Val
Gly Lys Phe Trp Leu Lys Gln Gly Val Asn Gly Phe Arg Leu Asp Ala Leu His Ile Phe Lys Asp
Gln Thr Pro Glu Gly Ala Lys Lys Asn Ile Leu Trp Trp Asn Glu Phe Arg Asp Ala Met Lys Lys Glu
Asn Pro Asn Val Tyr Leu Thr Phe Glu Val Trp Asp Gln Pro Glu Val Val Ala Pro Tyr Tyr Gln Ser
Leu Asp Ser Leu Phe Asn Phe Asp Leu Ala Gly Lys Ile Val Ser Ser Val Lys Ala Gly Asn Asp Gln
Gly Ile Ala Thr Ala Ala Ala Ala Thr Asp Glu Leu Phe Lys Ser Tyr Asn Pro Asn Lys Ile Asp Gly
Ile Phe Leu Thr Asn His Asp Gln Asn Arg Val Met Ser Glu Leu Ser Gly Asp Val Asn Lys Ala Lys
Ser Ala Ala Ser Ile Leu Leu Thr Leu Pro Gly Asn Pro Tyr Ile Tyr Tyr Gly Glu Glu Ile Gly Met Thr
Gly Glu Lys Pro Asp Glu Leu Ile Arg Glu Pro Phe Arg Trp Tyr Glu Gly Asn Gly Leu Gly Gln Thr
Ser Trp Glu Thr Pro Val Tyr Asn Lys Gly Gly Asn Gly Val Ser Val Glu Val Thr Lys Gln Lys
Asp Ser Leu Leu Asn His Tyr Arg Glu Met Ile Arg Val Arg Gln Gln His Glu Glu Leu Val Lys Gly
Thr Leu Gln Ser Ile Ser Val Asp Ser Lys Glu Val Val Ala Tyr Ser Arg Thr Tyr Lys Gly Asn Ser Ile
Ser Val Tyr His Asn Ile Ser Asn Gln Pro Val Lys Val Ser Val Ala Ala Lys Tyr Lys Leu Ile Phe Ala
Ser Gly Gly Ala Lys Lys Val Lys Asn Gln Leu Val Ile Pro Ala Asn Thr Thr Val Leu Ile Lys

SEQ ID NO: 185

atgaaactgatgaaagggaaaaattggacagcttttagctctaacactgccgctggctgctagcttatacaaggcgttcacgcgaaactgtac
ataaaggatgaagctccacagcga gataaaaaagggtgtctttatgaggtgtatgtaaacctttttacgatgcataaaagatggacatgggtattta
aaaaggcttatacaaaaagctggaatttttaattgacggaaattctatacaaaaagaatgatctcaagtaaacgggatttggatgccagctcaac
ctttctcctagctatataaattatgatgtaacggaattattatacaattgacccgagctacggaattctgcaagattttcgaagctgtgaagaaagc
agacaaacagagactgaaagtcattatggacctgttggatcatagcagcagcgaacacctgtgttcaacgtcgtgttaaaagataaaaaac
cgaagtacagatattactatttggctgataaaaaaacgacttgaatgaaaaaggacttgggagcagcaagtatgctataaa gctccaac
ggaggtatttttaccggaacgttttgggaagggaatgctgcacttaataatcagataaccctgaagtaagaaaaagaatgataacgtcggaaagttt
ggctaaagcaaggcgttgatggcttccgctgtagtgcgtgcgttctattttttaaaggfcaaacgcctgaaggcgtcaagaaataattctgtgtg
ggaaatgagtttagatgcgatgataaaaaagaaacctaacgtatatactaacgggtgaagtagtggaatgcgtgaagtgtagctcttactat
caatcgtctgataccctattactttgatttagcagggaaattgtcattctgttaaaagcagggaaatgatcaaggaaatgccactgcagcagcgg
caacgtgagcgtgttcaaatatcatacaataaaaaattgacggcaatttttcaaccaaccatgaccaaaacccgctatgagtgtaactgacg
gcgatgtgaacaaagcaaaatcagctgcttcttacttactacgcttctggcaacccgtatatttattacgggtgaagaaattggcattaccgggtga
aaagcgtgatgattatccgtgaacgttccgctggtacgaaggaaacggacttggacaacacagctgggaacacctgtatatacaaaagg

Figure 16 (cont.)

cgggcaacgcggtgctgtagaagcacaacaaacaaaggattcttggtaaatcattaccgtgaaatgtattcgcgtgcgtcagcagcatgaag
agttagtaaaaggaaacgtttcaatctatttttagtagacagttaaaggattgttcctatagccgtacgtataaagacaactcgattagcgtgtatcat
aatatttcaaatcaaccggtgtaaaagtctgtgtagcgaacaaaggtaaatattttgtctagtgaaaaaggctgtcaaaaagtcgaagaatcagcttg
tgattccggctaatacaacggttttaataaataa

SEQ ID NO: 186

Met Lys Leu Met Lys Gly Lys Lys Trp Thr Ala Leu Ala Leu Thr Leu Pro Leu Ala Ala Ser Leu Ser
Thr Gly Val His Ala Glu Thr Val His Lys Gly Lys Ala Pro Thr Ala Asp Lys Asn Gly Val Phe Tyr
Glu Val Tyr Val Asn Ser Phe Tyr Asp Ala Asn Lys Asp Gly His Gly Asp Leu Lys Gly Leu Thr
Gln Lys Leu Asp Tyr Ser Asn Asp Gly Asn Ser His Thr Lys Asp Asn Leu Gln Val Asn Gly Ile Trp
Met Met Pro Val Asn Pro Ser Pro Ser Tyr His Lys Tyr Asp Val Thr Asp Tyr Tyr Asn Ile Asp Pro
Gln Tyr Gly Asn Leu Gln Asp Phe Arg Lys Leu Met Lys Glu Ala Asp Lys Arg Asp Val Lys Val
Ile Met Asp Leu Val Val Asn His Thr Ser Ser Glu His Pro Trp Phe Gln Ala Ala Leu Lys Asp Lys
Asn Ser Lys Tyr Arg Asp Tyr Tyr Ile Trp Ala Asp Lys Asn Thr Asp Leu Asn Glu Lys Gly Ser Trp
Gly Gln Lys Thr His Lys Ala Pro Asn Gly Glu Tyr Phe Tyr Gly Thr Phe Tyr Gly Gly Met Pro
Asp Leu Asn Tyr Asp Asn Pro Glu Val Arg Lys Glu Met Ile Asn Val Gly Lys Phe Trp Leu Lys
Gln Gly Val Asp Gly Phe Arg Leu Asp Ala Ala Leu His Ile Phe Lys Gly Gln Thr Pro Glu Gly Ala
Lys Lys Asn Ile Leu Trp Trp Asn Glu Phe Arg Asp Ala Met Lys Lys Glu Asn Pro Asn Val Thr Leu
Thr Gly Glu Val Trp Asp Gln Pro Glu Val Val Ala Pro Tyr Tyr Gln Ser Leu Asp Ser Leu Phe Asn
Phe Asp Leu Ala Gly Lys Ile Val Ser Ser Val Lys Ala Gly Asn Asp Gln Gly Ile Ala Thr Ala Ala
Ala Thr Thr Asp Glu Leu Phe Lys Ser Tyr Asn Pro Asn Lys Ile Asp Gly Ile Phe Leu Thr Asn His
Asp Gln Asn Arg Val Met Ser Glu Leu Ile Gly Asp Val Asn Lys Ala Lys Ser Ala Ala Ser Ile Leu
Leu Thr Leu Pro Gly Asn Pro Tyr Ile Tyr Tyr Gly Glu Glu Ile Gly Met Thr Gly Lys Lys Pro Asp
Glu Leu Ile Arg Glu Pro Phe Arg Trp Tyr Glu Gly Asn Gly Leu Gly Gln Thr Ser Trp Glu Thr Pro
Val Tyr Asn Lys Gly Gly Asn Gly Val Ser Val Glu Ala Gln Thr Lys Gln Lys Asp Ser Leu Leu Asn
His Tyr Arg Glu Met Ile Arg Val Arg Gln Gln His Glu Leu Val Lys Gly Thr Leu Gln Ser Ile
Leu Val Asp Ser Lys Glu Val Val Ala Tyr Ser Arg Thr Tyr Lys Asp Asn Ser Ile Ser Val Tyr His
Asn Ile Ser Asn Gln Pro Val Lys Val Ser Val Ala Ala Lys Gly Lys Leu Ile Phe Ala Ser Glu Lys
Gly Ala Lys Lys Val Lys Asn Gln Leu Val Ile Pro Ala Asn Thr Thr Val Leu Ile Lys

SEQ ID NO: 187

ttgtatctcatccaggaggggcacatgcgttttccgccattattaccgcgttaccggcctggccgttccgggttgagctctgcgtaccgcacag
agctgcggcataggggagtttgcgcagcttccgggttcttgcggaattctgcaaaaaagccggattgatctgtacagcttctccgggtcaatgac
accggcacagaaagtctctcaatacagcgcgttcttgcctttgcctgcacccgtgtatatcaggctttccgacgtcctgaagcagcgggttcc
gaaaagcagattacagatctgaaaaagccggttgaggactgctcctgttttcagctatcggagctgcgcggttcccaactggtatctctgcgtgc
agtgttgataaaaaacaggcaaccatcatcgcgcagctgccgaactggaagcctggattcagataacccctggatcatgtaaatgcgggttttat
gaaccagaaaaccgcgaactttgaaagccggtggaaacattggaaaagctgcgaaccccaactcataacgaaatacaaaaaaaccttggcag
ggtaaaacctggcaggtgaccatcaattcttgcattgcgtgcagatgcggtcggaccagcagtttactccgcgcgtacagagtgcaacgcc
ctgggtgtctcttaaggcgatatactataatgatgaacgaggtatcgcgcagatgcctgggcgaatccgggaattcttccgtgacgattctgg
gccggaagtgccccctgacgggtgaaaacccccagggacaaaactggggcttcccatattataactggaaaaccttgcgaatgacgggtacag
ctgtgtgaaaaaacctgtcgaagcacgcgcacgtgtattaccgtcctaccgcattgaccataattctgggttttccggatgtgggtataccctat
ggcgaaactctcggttacctgggatggcccttgcgcgatgaaccggtaagtgccagcaagaactggcagaacggcgttttccaaggaccggtt
gcgtgcttactacgaacccccacttgcgtacacgggcagcgggaagcgaaataactgggaattcttgggaacacacggtctatctgaatcaga
tcatgaaccgtatcgttgaagaagaactatgctgttcaagcccagatcacctgcgaggcagatatacgaaacacaaacctgccggatgcc
cactggtacccagtgcttgcgtgacggcagtggaacaaaccggctgtgcaggttaccggccgcgacgaaaaaggacggacatactatctacgtgtgg
cgtttccgtgacagcactgcatggcagacgattaccgatggcgagaacactccctggaagagctgttgcgcccaaaaaggccgcgcacatga
aacctctggcgagaacaggcgggtggaacttctggtgagctgacgcgtatctacggatagcttgcctgtgtggaagatctgggaagtattcc
cacagtgatccggatgtgctttcaaacctttcaattacagcttgcgggttaccgcgtggcccccgaatggatgcccccggcagcccttica
cagactggaggatattccgctatgtcgtgtagcagcccatcggttcatgattctctaccctgcgcggatgtggggaacacgaaggcggcgga
ccgggcttattgacgcattggcctcgggaacaggtgcatcagcagagcagggccgcatgattctgaaggcgcgtgggacccgccca

Figure 16 (cont.)

ggcatctctgggtactccgtaaacctctcggaagcccggtccgcgctctgtgttttccccatccaggatatttggccctgtcttcacgacttttargcaat
gacagcggagcagggaacgcatcaatatccggcagtgatccggatttaactggacataccggtgctcctcgccgaatcgaggatttactaaa
aacagccaactttaaccgcaatccagaccgcttgaggaccgcccggcgagggaaggcacaaggagcacagcaatga

SEQ ID NO: 188

Met Tyr Leu Ile Gln Glu Gly His Met Arg Phe Pro Pro Ile Ile His Pro Leu Thr Gly Leu Ala Val Pro
Val Gly Ala Leu Arg Thr Ala Gln Ser Cys Gly Ile Gly Gly Phe Ala Asp Leu Pro Val Leu Ala Glu
Phe Cys Lys Lys Ala Gly Phe Asp Leu Val Gln Leu Leu Pro Val Asn Asp Thr Gly Thr Glu Ser Ser
Pro Tyr Ser Ala Leu Ser Ala Phe Ala Leu His Pro Leu Tyr Ile Arg Leu Ser Asp Leu Pro Glu Ala
Ala Gly Phe Glu Lys Gln Ile Thr Asp Leu Lys Ser Arg Phe Glu Asp Leu Pro Arg Phe Ser Tyr Thr
Glu Leu Arg Arg Ala Lys Leu Asp Ile Leu Arg Ala Val Phe Asp Lys Asn Lys Ala Thr Ile Ile Gly
Ser Ala Glu Leu Glu Ala Trp Ile Ser Asp Asn Pro Trp Ile Ile Glu Tyr Ala Val Phe Met Asn Gln
Lys His Arg Asn Phe Glu Ala Gly Trp Lys His Trp Glu Lys Leu Arg Asn Pro Thr His Asn Glu Ile
Gln Lys Thr Trp Gln Gly Lys Thr Trp Gln Ala Asp His Gln Phe Phe Ala Trp Leu Gln Met Arg Leu
Asp Gln Gln Phe Thr Glu Ala Ala Thr Glu Cys Asn Ala Leu Glu Phe Val Tyr Leu Lys Gly Asp Ile Pro
Ile Met Met Asn Glu Asp Ser Ala Asp Ala Trp Ala Asn Pro Glu Phe Phe Arg Asp Asp Leu Arg
Ala Gly Ser Pro Pro Asp Gly Glu Asn Pro Gln Gly Gln Asn Trp Gly Phe Pro Ile Tyr Asn Trp Glu
Asn Leu Ala Asn Asp Gly Tyr Ser Trp Trp Lys Lys Arg Leu Lys His Ser Ala Arg Tyr Tyr His Ala
Tyr Arg Ile Asp His Ile Leu Gly Phe Phe Arg Ile Trp Ala Ile Pro Tyr Gly Glu Tyr Ser Gly Tyr Leu
Gly Trp Pro Leu Pro His Glu Pro Val Ser Ala Ala Glu Leu Ala Glu Arg Gly Phe Ser Lys Asp Arg
Leu Arg Trp Leu Thr Glu Pro His Leu Pro Thr Arg Ala Ala Glu Ala Asn Asn Asp Tyr Ser Leu
Gly Thr His Gly Tyr Leu Asn Gln Ile Met Asn Arg Ile Gly Glu Glu Glu Leu Trp Leu Phe Lys Pro
Glu Ile Thr Cys Glu Ala Asp Ile Arg Asn Thr Asn Leu Pro Asp Ala Leu Lys Glu Val Leu Val Arg
Gln Trp Lys Asn Arg Leu Leu Gln Val Thr Gly Arg Asp Glu Lys Gly Arg Thr Ile Tyr Tyr Pro Leu
Trp Arg Phe Arg Asp Ser Thr Ala Trp Gln Thr Leu Thr Asp Gly Glu Lys His Ser Leu Glu Glu Leu
Phe Ala Gln Lys Ala Ala His Asn Glu Thr Leu Trp Arg Glu Glu Ala Val Glu Leu Leu Gly Glu Leu
Thr Arg Ser Thr Asp Met Leu Ala Cys Ala Glu Asp Leu Gly Ser Ile Pro His Ser Val Pro Glu Val
Leu Ser Asn Leu Ser Ile Tyr Ser Leu Arg Val Thr Arg Trp Ala Arg Gln Trp Asp Ala Pro Gly Gln
Pro Phe His Arg Leu Glu Glu Glu Tyr Pro Leu Met Ser Val Ala Thr Pro Ser Val His Asp Ser Thr
Leu Arg Gly Trp Trp Glu Thr Glu Gly Gly Asp Arg Ala Phe Met Asp Ala Trp Pro Pro Glu Gln
Asp Ala Tyr Ala Gly Ala Gly Arg His Glu Phe Glu Gly Ala Trp Gly Pro Arg Gln Ala Ser Trp Val
Leu Arg Lys Leu Cys Glu Glu Ala Arg Ser Ala Leu Cys Val Phe Pro Ile Gln Asp Ile Leu Ala Leu Ser
Ser Asp Phe Tyr Ala Met Thr Ala Asp Glu Glu Arg Ile Asn Ile Pro Gly Ser Val Ser Gly Phe Asn
Trp Tyr Arg Leu Pro Ala Ala Ile Glu Asp Leu Ser Lys Asn Ser Gln Leu Ile Thr Ala Ile Gln Thr
Ala Leu Gln Asp Arg Arg Ala Arg Lys Ala Gln Gly Ala Gln Gln

SEQ ID NO: 189

atgcaaacgattgcacaaaaagggatgaacgatgaagggaacaaatggacagcttttagctctaacactgccgctgctgctagcttatca
acaggcgttccagccgaacaccgtacataaaggtaaatctccagctgcagataaaaacgggtgcttttatgaggtgatgtaaactctttttacgatg
caaatlaaaggatggacatgggtgtattaaagggtcttacacaaaactggactattaaatgatggcaattctacatacaagaatgatctccaagttaa
cgggaatttgatgatgccgataccctctcctagctatcataaataatgatgtaacggactattataacattgatctcagtcggaatctcgcaag
atttcgcaagctaatgaaagaagcagataaacgagatgtaaaaagtattatggacctgtgttgatcatacagcagcagatgaacaccttggttica
agctgcgtgtaaaaagataaaaaacagcaaggtacacagatctattttggcctgataaaaaatccgatttgatgaaaaaggatcttggggaacac
aagtatggcacaagaactccaaacggagagatattttacggaacgttctggggaaggaatgcctgactaaatcatgataaacctgaagtagaagaaa
gaagtatttaacgtcggaaagtttggcctaagcgaaggcgtgtgacggcttccgcttgatgctgctccctcatcttctttaaaggccaacacctgaa
ggcgctagaagaaatattgtgtgtggaatgaatttagatgatgcagataaaaaagaaacccgaacgtatatctaacaggcggaagtgtgggac
agccgggaagctgtgacgtcttatctatctgctgctgattccctattttaactttgatttagcagggaataatgtgacagctctgtaaaacgaggaatgatc
aaggaaatcgctactgcagcagcggcgaacagatgactgtcaaatcatcatactccaaataaattggcggcattttcttaacaaatcatgacccaaa
atcgctgcatgagtgtgaaaggcggagatgtcaataaagcaaaatgcagctgcctctatcttacttacgcttccctggaaatccgtatatttattacggt
gaagaaatggcatgaccggtgaaaggctgatgaattatccgtgaaccgttccgctgtgacgaaggaaacggacttggacaactgattgg

Figure 16 (cont.)

gaaacacctgtatacaataaaggcggaacggcggtgtctgtagaagcacaaacaaaaggacctttgttaaatcattaccgtgaaatgat
tcggctgcgtcagcagcagcaagaagttagtaaaaggaaacgcttcattctatttcagtagacagataaagaagtgtgtgtcttatagccgtacgtataa
aggcaactccattagttgtgtatcataatatttcaaatcaacccgttaaagttatctgtagcagcgaagaaggttaattgttttctagtgtgaaaaagggtg
ctaaaaaggctcaaaatcagctgtgtattccggcggaatacaacgggtttttglaaaaaaa

SEQ ID NO: 190

Met Gln Thr Ile Ala Lys Lys Gly Asp Glu Thr Met Lys Gly Lys Lys Trp Thr Ala Leu Ala Leu Thr
Leu Pro Leu Ala Ala Ser Leu Ser Thr Gly Val His Ala Glu Thr Val His Lys Gly Lys Ser Pro Ala
Ala Asp Lys Asn Gly Val Phe Tyr Glu Val Tyr Val Asn Ser Phe Tyr Asp Ala Asn Lys Asp Gly His
Gly Asp Leu Lys Gly Leu Thr Gln Lys Leu Asp Tyr Leu Asn Asp Gly Asn Ser His Thr Lys Asn
Asp Leu Gln Val Asn Gly Ile Trp Met Met Pro Ile Asn Pro Ser Pro Ser Tyr His Lys Tyr Asp Val
Thr Asp Tyr Tyr Asn Ile Asp Ser Gln Tyr Gly Asn Leu Gln Asp Phe Arg Lys Met Met Lys Glu Ala
Asp Lys Arg Asp Val Lys Val Ile Met Asp Leu Val Val Asn His Thr Ser Ser Glu His Pro Trp Phe
Glu Ala Ala Leu Lys Asp Lys Asn Ser Lys Tyr Arg Asp Tyr Tyr Ile Trp Ala Asp Lys Asn Thr Asp
Leu Asn Gln Lys Gly Ser Trp Gly Gln Gln Val Trp His Lys Ala Pro Asn Gly Lys Tyr Phe Tyr Gly
Thr Phe Trp Glu Gly Met Pro Asp Leu Asn Tyr Asp Asn Pro Glu Val Arg Lys Glu Met Ile Asn Val
Gly Lys Phe Thr Tyr Leu Lys Gln Gly Val Asp Gly Phe Arg Leu Asp Ala Ala Leu His Ile Phe Lys Gly
Gln Thr Trp Glu Gly Ala Lys Lys Asn Ile Val Trp Trp Asn Glu Phe Arg Asp Leu Met Lys Lys Glu
Asn Pro Asn Val Tyr Leu Thr Gly Glu Val Trp Asp Gln Pro Glu Val Val Ala Pro Tyr Tyr Gln Ser
Leu Asp Ser Leu Phe Asn Phe Asp Leu Ala Gly Lys Ile Val Ser Ser Val Lys Ala Gly Asn Asp Gln
Gly Ile Ala Thr Ala Ala Ala Thr Asp Glu Leu Phe Lys Ser Tyr Asn Pro Asn Lys Ile Asp Gly
Ile Phe Leu Thr Asn His Asp Gln Asn Arg Val Met Ser Glu Leu Ser Gly Asp Val Asn Lys Ala Lys
Ser Ala Ala Ser Ile Leu Leu Thr Leu Pro Gly Asn Pro Tyr Ile Tyr Tyr Gly Glu Ile Gly Met Thr
Gly Glu Lys Pro Asp Glu Leu Ile Arg Glu Pro Phe Arg Trp Tyr Glu Gly Asn Gly Leu Gly Gln Thr
Ser Trp Glu Thr Pro Val Tyr Asn Lys Gly Gly Asn Gly Val Ser Val Glu Ala Gln Thr Lys Gln Lys
Asp Ser Leu Leu Asn His Tyr Arg Glu Met Ile Arg Val Arg Gln Gln His Glu Leu Val Lys Lys Gly
Thr Leu Gln Ser Ile Ser Val Asp Ser Lys Glu Val Val Ala Tyr Ser Arg Thr Tyr Lys Gly Asn Ser Ile
Ser Val Tyr His Asn Ile Ser Asn Gln Pro Val Lys Val Ser Val Ala Ala Lys Gly Lys Leu Ile Phe Ala
Ser Glu Lys Gly Ala Lys Lys Val Lys Asn Gln Leu Val Ile Pro Ala Asn Thr Thr Val Leu Val Lys

SEQ ID NO: 191

atgcaaacgattgcacaaaagggaatgaaacgatgaaagggaacacgcttttagcttaacactgccgctggctgctgatctca
acaggcgcttcacgccgaaacggtacataaaggtaaacttccaacagcagataaaacgggtgtctttttgaagtgtatgtaaactctttttacgatg
caataataagatggacatggtgacttaaaaggctcttacaacaaagggtggactatttaaatgacggcaattctcatcaaaaaaatgatcttcaagtaa
cggatgttggatgatgcgaactcaacccctctcctgactatcataatatgatgtaacggactattataacattgatccgcagtcaggaaatctgc
gaatttccgaagctgatgaaagaagcagacaaacgagacgtaaaagctcattatggacgttgtgtgaatcatagcagcagtgaaacacctgtgtt
caagctgcgtttaaagataaaaacagcagatgacagatgactatatttggcgtgataaaaataccgacttgatgaaagaaaggatcttggggaca
acaagatgccaataaagctccaaacggagagatattttacggaaacgttctgggaagggaatgcctgactaaattaccgataaaccttgaagtaagaa
aagaaatgattaacgtcggaaagtgttggcctaagcaaggcgttgacgggttccgcttagatgctgcgttcattattttaaaggctcaaacgctga
aagcgtcgaagaaaaatctcgtgtggatgaggttllagaatgcgatgaaaaaaagaaatccgaatgtatatctaacgggtgaagtggatggat
cagcctgaaggtgtagctcttattatcaatcgttgattctttattatatttattgatttagcaggaataattgtcagctctgtaaaagcaggaatgatc
aaggaaatccgacatgcagcagcagcaacagatgaactgttcaaatcatataatccaaacaaaattgatggcattattcttaaccaaccatgaccaa
aatcgcgtcatgctgagctgagcggcgatgtgagcagaacgaaatcagctgcttcttacttactgactccttggcaacccgttatattttatcag
gtgaagaatacggcatgaccgtgtgaaaagcgtgatgaattatccgtgaacccgttccgtcgtgtgacgaaggaaacggacttggacaacacgtt
gggaacacacctgtatatacaataaaggcgaaacgggtgtgtctgtagaagcacaacaaacaaaggaattcttggtaaatcattaccgtgaaatg
attcgcgtgcagcagcatgaagagttagtaaaaggaaacgcttcaactatttaccagtagtagacagataaagaagtgtgtgttatagccgtacgtata
aaggcaactccattgtgtgtatcataatatttcaaatcaacccgtgtaaagttatctgtgacagcgaagagtaaatgtatttttgcagtagtgaagaggt
gctaagaaggctcaaaatcagctgtgtgttcggcggaatacaacgggttttaatgaaataa

SEQ ID NO: 192

Figure 16 (cont.)

Met Gln Thr Ile Ala Lys Lys Gly Asp Glu Thr Met Lys Gly Lys Lys Trp Thr Ala Leu Ala Leu Thr
 Leu Pro Leu Ala Ala Ser Leu Ser Thr Gly Val His Ala Glu Thr Val His Lys Gly Lys Ser Pro Thr
 Ala Asp Lys Asn Gly Val Phe Thr Glu Val Tyr Val Asn Ser Phe Tyr Asp Ala Asn Lys Asp Gly His
 Gly Asp Leu Lys Gly Leu Thr Lys Leu Asp Tyr Leu Asn Asp Gly Asn Ser His Thr Lys Asn
 Asp Leu Gln Val Asn Gly Ile Trp Met Met Pro Val Asn Pro Ser Pro Ser Tyr His Lys Tyr Asp Val
 Thr Asp Tyr Tyr Asn Ile Asp Pro Gln Tyr Gly Asn Leu Gln Asp Phe Arg Lys Leu Met Lys Glu Ala
 Asp Lys Arg Asp Val Lys Val Ile Met Asp Leu Val Val Asn His Thr Ser Ser Gly His Pro Trp Phe
 Gln Ala Ala Leu Lys Asp Lys Asn Ser Lys Tyr Arg Asp Tyr Tyr Ile Trp Ala Asp Lys Asn Thr Asp
 Leu Asn Gln Lys Gly Ser Trp Gly Gln Gln Val Trp His Lys Ala Pro Asn Gly Gly Tyr Phe Tyr Gly
 Thr Phe Trp Gly Glu Met Pro Asp Leu Asn Tyr Asp Asn Pro Glu Val Arg Lys Glu Met Ile Asn Val
 Gly Lys Phe Trp Leu Lys Gln Gly Val Asp Gly Phe Arg Leu Asp Ala Ala Leu His Ile Phe Lys Gly
 Gln Thr Ala Glu Gly Ala Lys Lys Asn Ile Leu Trp Trp Asn Glu Phe Arg Asp Ala Met Lys Lys Glu
 Asn Pro Asn Val Tyr Leu Thr Gly Glu Val Trp Asp Gln Pro Glu Val Val Ala Pro Tyr Tyr Gln Ser
 Leu Asp Ser Leu Phe Asn Phe Asp Leu Ala Gly Lys Ile Val Ser Ser Val Lys Ala Gly Asn Asp Gln
 Gly Ile Ala Thr Ala Ala Ala Thr Asp Glu Leu Phe Lys Ser Tyr Asn Pro Asn Lys Ile Asp Gly
 Ile Phe Leu Thr Asn His Asp Gln Asn Arg Val Met Ser Glu Leu Ser Gly Asp Val Ser Lys Ala Lys
 Ser Ala Ala Ser Ile Leu Leu Thr Leu Pro Gly Asn Pro Tyr Ile Tyr Tyr Gly Glu Ile Gly Met Thr
 Gly Gly Lys Pro Asp Glu Leu Ile Arg Glu Pro Phe Arg Trp Trp Gly Lys Glu Leu Gly Gln Thr
 Ser Trp Glu Thr Pro Val Tyr Asn Lys Gly Gly Asn Gly Val Ser Val Glu Ala Gln Thr Lys Gln Lys
 Asp Ser Leu Leu Asn His Tyr Arg Glu Met Ile Arg Val Arg Gln Gln His Glu Leu Val Lys Gly
 Thr Leu Gln Ser Ile Ser Val Asp Ser Lys Glu Val Val Ala Tyr Ser Arg Thr Tyr Lys Gly Asn Ser Ile
 Ser Val Tyr His Asn Ile Ser Asn Gln Pro Val Lys Val Ser Val Ala Ala Lys Gly Lys Leu Ile Phe Ala
 Ser Glu Lys Gly Ala Lys Lys Val Lys Asn Gln Leu Val Val Pro Ala Asn Thr Thr Val Leu Met Lys

SEQ ID NO: 193

atgaattcaaaaaggtttatctgccggctcttttgtcggaggtctgagcgggtgacacattccgtcgtcggaggtgccacgaaccgc
 attgttcattttatcgaatggagtggtggccggaattgcccaccgaatgcgaacctttctggccctaaagggttctctcgtggttcacgtgtctcgc
 cgcaaaaagcgtcagcaatgcgtcgtggtggcgcgtaccacactgttacttctttgaaggcgcagtggaacccgggctcaatttgc
 ggatatgtccagcgttgtaaaagggttggggctgatatatttctggaatgcgggtgaaccaattggcagcacaagatcgtatatttcagaagt
 accttcacagcagaatgattttacagttgcacggcgatatacatttcaacctggtcgtatcaaaattgcatctgtgttgggctgaacgat
 ctcaaaaccagatcaaatcattgctggcagaataatgacactatataacgatgcgtcgtcgtggcggtgggttggatgtatgcgcg
 ccaagcatatcccggccgcgacatcgccgcgaatcaagcaagctcaacggcagccgtatctatcaggaggtttatcgggcgccagg
 ggagccgggtacaacccagcggatcacgtatattggagacgtgacggaatttaactctgcccgaccatcgggctcaaatattgaagcaaggtat
 attaaagacctgcggggatggttctgtgagcggctggctgagcagcagacgatcgggtgacatttggatcaaccaatgacgaagaacgca
 taacctggccaggtctcagccagcagcgttggcaactgtatttctcggtacgttgaacttggcgtatctcactcagctaccacaaagtga
 tgtcgggttactacttcagtaattttgatgcgggccacacatgcagacgggtacattctgtaactcgtgtggttgaatggcggtatgggtctg
 cgaacacaaattggcgtgtgtgtagccaacatgtggtggttctgcgaaccacacagcagccagtgccaggtcactgactgactgtggacgatggtt
 acaatcaggtgcggttggctgtggtggcggtcgggttgggtggtatcaatcgcagatgacaataaaggcatcaatcagattttcagacgaggat
 gcccgctggcgatattgtgacacattgcccgttgatttcgacaccacagcgggtcattgcagcgtacgacgatcaccgtgcagacgtcagg
 gtatgcacatttactctcggatgactacagccgctgcgacttcaattggcggaacctggctcgtgtgcgagctgtggcggaacggcc
 gcagagacaaaagtctgttgtaacaaatgacaaacttggccaacccgtatttgcattactggaaatgtcaatggcgtatgacggcgtatgcgaatgc
 aacttggcgccggcgtcgcgagatgcggctgaaaaatggcggttactgctacgattttgtgtgctggtctcaatcacttcagtaatttgcagataa
 ccgcgcagacaaaaccggtgacttgaacccgcagcagctgcgactgtgtgttaccagaacggaaactggcgtgacagtgactctgtcagatga
 gcaattgtggcgaacgaggtgtgtatttctgtgggaacctcaaacgggttggcggtgagcgcactcacttaattggtcgtgcgacagggcgtgaca
 ctacgtgcgacagcttaacggggaggagtcgcccgacgctttaaattgatgatgcgaactggagtgagtgactatccaagtctgattatcaaa
 gtccgtgattatgcacactacagctggttgacagcagcgaaggccataccgtgacttcagtaa

SEQ ID NO: 194

Met Lys Phe Lys Lys Ser Leu Ser Ala Gly Leu Leu Leu Phe Gly Gly Leu Ser Gly Val Thr Pro Ser
 Val Ala Ala Glu Val Pro Arg Thr Ala Phe Val His Leu Phe Glu Trp Ser Trp Pro Asp Ile Ala Thr

Figure 16 (cont.)

Glu Cys Glu Thr Phe Leu Gly Pro Lys Gly Phe Ser Ala Val Gln Val Ser Pro Pro Gln Lys Ser Val
Ser Asn Ala Ala Trp Trp Ala Arg Tyr Gln Pro Val Ser Tyr Ser Phe Glu Gly Arg Ser Gly Thr Arg
Ala Gln Phe Ala Asp Met Val Gln Arg Cys Lys Ala Val Gly Val Asp Ile Tyr Leu Asp Ala Val Ile
Asn His Met Ala Ala Gln Asp Arg Tyr Phe Pro Glu Val Pro Tyr Ser Asn Asp Phe His Ser Cys
Thr Gly Ser Ile Asp Tyr Ser Asn Arg Trp Ser Ile Gln Asn Cys Asp Leu Val Gly Leu Asn Asp Leu
Lys Thr Glu Ser Gly Tyr Val Arg Gln Lys Ile Ala Asp Tyr Met Asn Asp Ala Leu Ser Leu Gly Val
Ala Gly Phe Arg Ile Asp Ala Ala Lys His Ile Pro Ala Gly Asp Ile Ala Ile Lys Ser Lys Leu Asn
Gly Ser Pro Tyr Ile Tyr Gln Glu Val Ile Gly Ala Ala Gly Glu Pro Val Gln Thr Ser Glu Tyr Thr Tyr
Ile Gly Asp Val Thr Gly Phe Asn Phe Ala Arg Thr Ile Gly Pro Lys Phe Lys Gln Gly Asn Ile Lys
Asp Leu Gln Gly Ile Gly Ser Trp Ser Gly Trp Leu Ser Ser Asp Asp Ala Val Thr Phe Val Thr Asn
His Asp Glu Glu Arg His Asn Pro Gly Gln Val Leu Ser His Gln Asp Phe Gly Asn Leu Tyr Phe Leu
Gly Asn Val Phe Thr Leu Ala Tyr Pro Tyr Gly Tyr Pro Lys Val Met Ser Gly Tyr Tyr Phe Ser Asn
Phe Asp Ala Gly Pro Ser Ser Thr Gly Val His Ser Gly Asn Ala Cys Gly Phe Asp Gly Gly Asp Trp
Val Cys Glu His Lys Trp Arg Gly Val Ala Asn Met Val Ala Phe Arg Asn His Thr Ala Ala Gln Trp
Gln Val Thr Asp Trp Trp Asp Asp Gly Tyr Asn Gln Val Ala Phe Gly Arg Gly Leu Gly Phe
Val Val Ile Asn Arg Asp Asp Asn Lys Gly Ile Asn Gln Ser Phe Gln Thr Gly Met Pro Ala Gly Glu
Tyr Cys Asp Ile Ile Ala Gly Asp Phe Asp Thr Gln Ser Gly His Cys Ser Ala Thr Thr Ile Thr Val
Ser Ser Gln Gly Tyr Ala His Phe Thr Val Gly Ser His Gln Ser Ile His Ile Thr Gly Ala Lys Leu
Gly Ser Val Cys Gln Asp Cys Gly Gly Thr Ala Ala Glu Thr Lys Val Cys Phe Asp Asn Ala Gln
Asn Phe Ser Gln Pro Tyr Leu His Tyr Trp Asn Val Asn Ala Asp Gln Ala Val Ala Asn Ala Thr Trp
Pro Gly Val Ala Met Thr Ala Glu Asn Gly Gly Tyr Cys Tyr Asp Phe Gly Val Gly Leu Asn Ser Leu
Gln Val Ile Phe Ser Asp Asn Gly Ala Ser Gln Thr Ala Asp Leu Thr Ala Ser Ser Pro Thr Leu Cys
Tyr Gln Asn Gly Thr Trp Arg Asp Ser Asp Phe Cys Gln Ser Ser Asn Val Gly Asn Gln Ser Trp Tyr
Phe Arg Gly Thr Ser Asn Gly Trp Gly Val Ser Ala Leu Thr Tyr Glu Ala Ala Thr Gly Leu Tyr Thr
Thr Val Gln Ser Phe Asn Gly Glu Glu Ser Pro Ala Arg Phe Lys Ile Asp Asp Gly Asn Trp Ser Glu
Ser Tyr Pro Ser Ala Asp Tyr Gln Val Gly Asp Tyr Ala Thr Tyr Thr Ile Thr Phe Asp Ser Gln Thr
Lys Ala Ile Thr Val Thr Ser Gln

SEQ ID NO: 195

atgctgcagacagcgtttctttgatggcgatacatcaacaacacgaccttacaaccagaactacgatgctaaaaacgacgggggaacttatcagg
gcggcgctatttaaggaatcacgcaaaaatttgattatctcgataagctagggctgaacacatctgctgacgcccgatcgtggaaatacaag
catgatgtccgttatgacaacitcgaaggcattcatactatgcttaccacggctactggtggcaacgacatctgctggtttaaacccacactcgggt
acaatggagatttccatacactgattgacgtcccatgaaaaggcatcaagatcatggttgacgtatgtaataaacacactcgtttatggctta
aaagatatcaacggagaggtttccatctccacggcttaccacactgcgcgaacgcgacacatatagcagcgtcttcggcagggttca
aagtgcgctcatgaggtgttgccgaattagctggcctacctgacttataaaacagagaaccccgcagtcgccagacaatcagactggc
aaacagactggatcacgaagcctactacagctaaaggaaacacaattgactacttccgtgctgacactgtgaagcacgttgaagacgcaacat
ggatggcattcaaaaatgacctcactgaaaataatgccgacacacaaaatgacgggaagcttgggggaaggtggccaatgccaataccaactggaat
accttgaacacggatgatggactcactgctgacttcgacttcaaaaggcattgcgcagatttctgaaacggcgaagcittaaggcagcaaacgat
gccctgactgccgcgaacggttaaattgacaacacagctactttaggttacttcttggaggaacatgacgaagatggtttcttataaagaagg
aatgacaaaaggcgaagtcttaagttgctgtcttccgcaagcaacatcaaaaaggccagccgtcatctatattgtgtgaagagcttggctcaagg
gagcaaaaacatctccgcaatcagataaacgcttatgacctggcatgggacaaaagttgaaaacaacgacgtcttggagcactacactaaggtctct
gaacttcagaaggcgtcattcagaagttgttcgtaaagggtgaacgcgcaacaattggcgggttcagcgtgataaattctactttttgctgttaa
aatggaacgagctgtcttacgtcgtgtgaacgttctgacacagcaaaaagcagcaacactgaactgtttctcaggtgcagctgtaactgacc
actatgcagataaaaacttatactgtctcagaagctgggagaatcacattgacgatccggcaaaagctgagtgccggtactgtttactaacggttg
aaggcgggaataacacagctgctaaaggcggcgaagcggaagggcagcgcacagtgtagccaatgctgtgacccaacacacccgactactaca
ccgtgacagcaacaactatgaaaactcgggtgcatggctgtggacgatgtagcctccctcttgcacactggccgactggcgctacaatgtttg
aaaaaacagcagctacgggtgatacatcagctaccactttaaaggggcgtaagaacatcggtcttctgtaaggatgtaacaaaagggtga
tcagggttaagacggcggcagacaagggtttttagctatctcatccactgaaatgaacgaatttggataacgaaggttctgacaagggtgtacactt
acgagccagttgatcttccggcgaacactgtccggctcactatgtactgtgacaacgcagactacgaaaacttctgtatctggaaactggggcga
tgtacagcagccttccgaaaactgacctacggcgagcgaaattcgatgtacagaccgttaccgtgctgtatgctgacattacgtaaaaaga

Figure 16 (cont.)

ggcgcaagaacattggaatgatgctcttaacactgcaaatggagagagaaagcggcgagataaactcttacccttctggataaataataatcg
catttggattaaacaagggtgatgacaatgtctacgtttctccatactgggagcaggcaacaggaaatcccaatcgagaggtaactctgaagata
cgaattctataggcttccaaatgactgacggcttaacacctgaatctttaaaaggaggtcttgaattaaagattcaactgggtgctgaagtggccatc
gaaagtgtctgaaatcaacaggcgaacctctgtaaaagtataaagcaaacattcgattagaagagcttccattccatccatcagcaggcagaac
agtttcacgttcaactggcgtggagaatgcttgatgaaatgtacgcttatgatggaaacagcactgttggcgacttacaaggcaggagcagcgacg
cttaaaattgggctccgaaagcgagcaaggtaacgcgtaactcttggataaaaaaatgcccgtgaaaaaatcggcagcgctgaggttaacgaa
gggtgtaaaaggagcttggcagctatgggtgctctggcgacctgaacgatctgaagggtattttaccagatgatgtaacaatga
cggataaactcggcagggtttagatcttatgcaaaatcaatggcagccttactgtgataacagaggcaatgctgtcctgacggggacactg
ttggcaaggcggaattcaaaaagcttctcgagagtactctag

SEQ ID NO: 196

Met Leu Thr Asp Arg Phe Phe Asp Gly Asp Thr Ser Asn Asn Asp Pro Tyr Asn Gln Asn Tyr Asp
Ala Lys Asn Asp Arg Gly Thr Tyr Gln Gly Gly Asp Phe Lys Gly Ile Thr Gln Lys Leu Asp Tyr Leu
Asp Lys Leu Gly Val Asn Thr Ile Trp Ile Ser Pro Ile Val Glu Asn Ile Lys His Asp Val Arg Tyr Asp
Asn Ser Glu Gly His Ser Tyr Ala Tyr His Gly Tyr Trp Ala Ser Asn Phe Gly Ala Leu Asn Pro
His Phe Gly Thr Met Glu Asp Phe His Thr Leu Ile Asp Ala Ala His Glu Lys Gly Ile Lys Ile Met
Val Asp Val Val Leu Asn His Thr Gly Tyr Gly Leu Lys Asp Ile Asn Gly Glu Val Ser Asn Pro Pro
Ala Gly Tyr Pro Thr Asp Ala Glu Arg Ser Thr Tyr Ser Ser Leu Leu Arg Gln Gly Ser Asn Val Gly
Ser Asp Glu Val Val Gly Glu Leu Ala Gly Leu Pro Asp Leu Lys Thr Glu Asp Pro Ala Val Arg Gln
Thr Ile Ile Asp Trp Gln Thr Asp Trp Ile Thr Lys Ala Thr Thr Ala Lys Gly Asn Thr Ile Asp Tyr Phe
Arg Val Asp Thr Val Lys His Val Glu Asp Ala Thr Trp Met Ala Phe Lys Asn Asp Leu Thr Glu
Lys Met Pro Thr His Lys Met Ile Gly Glu Ala Trp Gly Ala Ser Ala Asn Asn Gln Leu Gly Tyr Leu
Glu Thr Gly Met Met Asp Ser Leu Leu Asp Phe Asp Phe Lys Gly Ile Ala His Asp Phe Val Asn Gly
Lys Leu Lys Ala Ala Asn Asp Ala Leu Thr Ala Arg Asn Gly Lys Ile Asp Asn Thr Ala Thr Leu Gly
Ser Phe Leu Gly Ser His Asp Glu Asp Gly Phe Leu Phe Lys Glu Gly Asn Lys Lys Gly Lys Leu
Lys Val Ala Ala Ser Leu Gln Ala Thr Ser Lys Gly Gln Pro Val Ile Tyr Tyr Gly Glu Glu Lys Gly
Gln Ser Gly Ala Asn Asn Tyr Pro Gln Tyr Asp Asn Arg Tyr Asp Leu Ala Trp Asp Lys Val Glu
Asn Asn Asp Val Leu Glu His Tyr Thr Lys Val Leu Asn Phe Arg Ser Ala His Ser Glu Val Phe Ala
Lys Gly Glu Arg Ala Thr Ile Gly Gly Ser Asp Ala Asp Lys Phe Leu Lys Phe Arg Lys Asn Gly
Asn Glu Ala Ala Tyr Val Gly Leu Asn Val Ala Asp Thr Ala Lys Asp Val Thr Leu Thr Val Ser Ala
Gly Ala Val Val Thr Asp His Tyr Ala Asp Lys Thr Tyr Thr Ala Ser Glu Ala Gly Glu Ile Thr Leu
Thr Ile Pro Ala Lys Ala Asp Gly Gly Thr Val Leu Leu Thr Val Glu Gly Gly Glu Ile Thr Ala Ala
Lys Ala Ala Ser Glu Gly Asp Gly Thr Val Glu Pro Val Pro Ala Asn His Ile Arg Ile His Tyr Asn
Arg Thr Asp Asn Asn Tyr Glu Asn Tyr Gly Ala Trp Leu Trp Asn Asp Val Ala Ser Pro Ser Ala Asn
Trp Pro Thr Gly Ala Thr Met Phe Glu Lys Thr Asp Ser Tyr Gly Ala Tyr Ile Asp Val Pro Leu Lys
Glu Gly Ala Lys Asn Ile Gly Phe Val Met Asp Val Thr Lys Gly Asp Gln Gly Lys Asp Gly Gly
Asp Lys Gly Phe Thr Ile Ser Ser Pro Glu Met Asn Glu Ile Trp Ile Lys Gln Gly Ser Asp Lys Val
Tyr Thr Tyr Glu Pro Val Asp Leu Pro Ala Asn Thr Val Arg Val His Tyr Val Arg Asp Asn Ala Asp
Tyr Glu Asn Phe Gly Ile Trp Asn Trp Gly Asp Val Thr Ala Pro Ser Glu Asn Trp Pro Thr Gly Ala
Ala Lys Phe Asp Gly Thr Asp Arg Tyr Gly Ala Tyr Val Asp Ile Thr Leu Lys Glu Gly Ala Lys Asn
Ile Gly Met Ile Ala Leu Asn Thr Ala Asn Gly Glu Lys Asp Gly Gly Asp Lys Ser Phe Asn Leu Leu
Asp Lys Tyr Asn Arg Ile Trp Ile Lys Gln Gly Asp Asp Asn Val Tyr Val Ser Pro Tyr Trp Glu Glu
Ala Thr Gly Ile Thr Asn Ala Glu Val Ile Ser Glu Asp Thr Ile Leu Leu Gly Phe Thr Met Thr Asp
Gly Leu Thr Pro Glu Ser Leu Lys Gly Gly Leu Val Ile Lys Asp Ser Thr Gly Ala Glu Val Ala Ile
Glu Ser Ala Glu Ile Thr Ser Ala Thr Ser Val Lys Val Lys Ala Thr Phe Asp Leu Glu Lys Leu Pro
Leu Ser Ile Thr Tyr Thr Gly Arg Thr Val Ser Ala Ser Thr Gly Trp Arg Met Leu Asp Glu Met Tyr
Ala Tyr Asp Gly Asn Asp Leu Gly Ala Thr Tyr Lys Asp Gly Ala Ala Thr Leu Lys Leu Trp Ala Pro
Lys Ala Ser Lys Val Thr Ala Asn Phe Phe Asp Lys Asn Asn Ala Ala Glu Lys Ile Gly Ser Val Glu
Leu Thr Lys Gly Glu Lys Gly Val Trp Ser Ala Met Val Ala Pro Gly Asp Leu Asn Val Thr Asp Leu
Glu Gly Tyr Phe Tyr Gln Tyr Asp Val Thr Asn Asp Gly Ile Thr Arg Gln Val Leu Asp Pro Tyr Ala

10061672.022102

Figure 16 (cont.)

Lys Ser Met Ala Ala Phe Thr Val Asn Thr Glu Gly Asn Ala Gly Pro Asp Gly Asp Thr Val Gly Lys
Ala Ala Ile Gln Lys Ala Ser Arg Glu Tyr Phe

SEQ ID NO: 197

atgaaacgtcaaaatctgtttctctgtgccatcgttgcagcctctccagaccgcaatgctgacgccattttgcatgcatttaactggaag
tctcgcagctcacgcaaacgcctcgcaaatcgccggcgccgggtataaaaaagctgctgatttcgccagcactgaaatcgaaggcgaatgaa
tgctggcgacgttatcaaccgcgaagatctgcgcgtatcgattccaccatggcaacaanaagtgacttaaaatccatgattgatgctctgaagcg
ggctggcggttatgtgtatgccgatgtggtgcttaaccataggccaatgaacatggaagcgtgaaacttaaaatccctggcagtgaaagtgc
tgcacaatacgcagcttaacacaggttatgtatgoggacaaacgctttttggcaatttaacggaaacacttatctctgctgttgacttccaccaga
aggctgtattagcaggtggaatgatccgcgaatgttcagtlactggcgtcttggcggtgctgtgtaaccgagggcgtccagacttagactcgga
acaactgggtgggtgcacacgaacgttgttattgaatgcgtaaagggttttaggtgtgaaaggctcccgattgatcggttgaacacatgagcc
aatatcaaatgcaccagattttcactgcagagattaccgccgggaatgcacgtgtttgtggaagtgaaccagctgtgtggcaaaaggcgactccag
ctatgagaactcttaggccttatctcaacgccaccaaccattggcttacgatttccactgtttgcctctatctgcaacgcctctctacagcg
tggcatgaacatgcttcaatgacccaagcctatggccaagggtgtgaaacgcacgttcaattacattacacgcacgacatcccaacga
acgacggtttccgttatcaaatcatgatccggaagatgaagagctggcttacgttatactcctggttaagatggcgccacacctctgatttaca
gcgacaactaacctgataacgaagatcgtgataatccgctgtgggaagggtgttggaaccgtgacctgatgaagaacatgttgcgtctcataac
caaatgcaaggcgcaagagatgcgatgctgtacagcgaccaatgtctactgatgtttaaagcggcggttaaacagggtgtgctggcattataaat
gggttgatcggaagcgttctcataccggttgacacctatcagcatgagttcaactggtacagccttcaacagatacactcaactgcgtgactgaacc
gtgagttgcgttaccacaccttccgaattccagctcgcagcgcgcgatgtacatgctctaa

SEQ ID NO: 198

Met Lys Pro Ser Lys Phe Val Phe Leu Ser Ala Ala Ile Ala Cys Ser Leu Ser Thr Ala Asn Ala
Asp Ala Ile Leu His Ala Phe Asn Thr Lys Tyr Ser Asp Val Thr Gln Asn Ala Ser Thr Ile Ala Ala
Ala Gly Tyr Lys Val Leu Ile Ser Pro Ala Leu Lys Ser Ser Gly Asn Glu Trp Trp Ala Arg Tyr
Gln Pro Gln Asp Leu Arg Val Ile Asp Ser Pro Leu Gly Asn Lys Ser Asp Leu Lys Ser Met Ile Asp
Ala Leu Lys Ala Val Gly Val Asp Val Tyr Ala Asp Val Val Leu Asn His Met Ala Asn Glu Thr Trp
Lys Arg Glu Asp Leu Asn Tyr Pro Gly Ser Glu Val Leu Gln Gln Tyr Ala Ala Asn Thr Ser Tyr Tyr
Ala Asp Gln Thr Leu Phe Gly Asn Leu Thr Glu Asn Leu Phe Ser Gly Phe Asp Phe His Pro Glu
Gly Cys Ile Ser Asp Trp Asn Asp Ala Gly Asn Val Gln Tyr Trp Arg Leu Cys Gly Gly Ala Gly Asp
Arg Gly Leu Pro Asp Leu Asp Pro Asn Asn Trp Val Val Ser Gln Gln Arg Leu Tyr Leu Asn Ala
Leu Lys Gly Leu Gly Val Lys Gly Phe Arg Ile Asp Ala Val Lys His Met Ser Gln Tyr Gln Ile Asp
Gln Ile Phe Thr Ala Glu Ile Thr Ala Gly Met His Val Phe Gly Glu Val Ile Thr Ser Gly Gly Lys Gly
Asp Ser Ser Tyr Glu Asn Phe Leu Ala Pro Tyr Leu Asn Ala Thr Asn His Ser Ala Tyr Asp Phe Pro
Leu Phe Ala Ser Ile Arg Asn Ala Phe Ser Tyr Ser Gly Met Asn Met Leu His Asp Pro Gln Ala
Tyr Gly Gln Gly Leu Glu Asn Ala Arg Ser Ile Thr Phe Thr Ile Thr His Asp Ile Pro Thr Asn Asp
Gly Phe Arg Tyr Gln Ile Met Asp Pro Lys Asp Glu Glu Leu Ala Tyr Ala Tyr Ile Leu Gly Lys Asp
Gly Gly Thr Pro Leu Ile Tyr Ser Asp Asn Leu Pro Asp Asn Glu Asp Arg Asp Arg Tyr Trp
Glu Gly Val Trp Asn Arg Asp Leu Met Lys Asn Met Leu Arg Phe His Asn Gln Met Gln Gly Gln
Glu Met Thr Met Leu Tyr Ser Asp Gln Cys Leu Leu Met Phe Lys Arg Gly Lys Gln Gly Val Val
Gly Ile Asn Lys Cys Gly Glu Arg Ser Glu Tyr Thr Tyr Gln His Glu Phe Asn Thr Tyr Trp
Gln Pro Tyr Thr Asp Thr Leu Thr Gly Val Thr Glu Thr Val Ser Ser Arg Tyr His Thr Phe Arg Ile
Pro Ala Arg Ser Ala Arg Met Tyr Met Leu

SEQ ID NO: 199

gtgagttgaccaaaaaggctcagtagaaccaaatcggccaaggctcagtagatctctgcaatcaatgccgcgcaacaacaatatcca
aatttaccggcagtggtgttttaaccaccgaggtggtgctgatgggaagtcgtgggtgatataccaagcgcgttattgggacaaccgcaatattg
aacctggcgcaacaatgattgaagcttgggtgatttaattttctggccgcacacgacaatactcgaacttccattggacttgatcattttgac
gggttgactggatgacccggcaaaaaggatcattttaattcaaaaggcgaaggaaaagcatggattgggaagtcagctctgaaaa
aggcaattacgactactaa

Figure 16 (cont.)

SEQ ID NO: 200

Val Ser Leu Thr Lys Lys Ala Gln Tyr Glu Pro Asn Thr Ala Pro Arg Leu Ser Thr Ser Leu Gln Ser
Met Pro Arg Thr Thr Thr Ile Ser Lys Phe Thr Ala Met Leu Cys Leu Thr Thr Glu Val Val Leu Met
Gly Ser Arg Gly Ser Ile Pro Ser Ala Leu Ile Gly Thr Thr Ala Ile Leu Thr Thr Thr Thr Thr Thr Thr
Lys Leu Gly Leu Ser Leu Ile Phe Leu Ala Ala Thr Thr Asn Thr Arg Thr Ser Ile Gly Leu Gly Ile
Thr Leu Thr Val Leu Thr Gly Met Thr Pro Ala Lys Lys Lys Arg Ser Leu Asn Ser Lys Ala Lys Glu
Lys His Gly Ile Gly Lys Ser Ala Leu Lys Lys Ala Ile Thr Thr Thr

SEQ ID NO: 201

atgacagccaaggctgactacgcatcttaccagatcatggtggaagcctttgtgattggcgataaaccgctggccatggcaccggctacg
gtaccagccatcacaaaaggcgaictgcaaggatcattgactcgtgattacattcaatcgtggcgctgaatgccatttggctaacgcgatt
ttgaattctattccgggtggaggacgaagaccattggcgggacaggcttgatgctacagctactttggcagtgactatttcaagatagaccctcgt
ttggcacgttgaacaagcccggtgagctgtgggaaaaggcacacgcgaagggcttggatgtctcttttggatggagtatttggcaccataaaggc
aatgtgtgtgcatcaccacaaggtgactgctgctgggtgaaataaccggcagctaccagagagcctggcgttttaccgaagaagtcgcc
agttactgggtgaaagagttgaagattgattggctggcgtctggtatcaagcctatcaagtgccgaccgatgcatggaagcgatccgtaagc
gttgatgaagcgtcacagtcgtaacttatgtgaatacaaaagggaaccgtccatcctttgggttaccatggtggctgaatttgaataacgaa
cgttatcatcacagaaccgggtaccgcaagaaggcgatccggcgttggctcgtggcttttgatttccgatgcgtttccgagtggtcgaacccitt
gcggtttaacgaaaagggtgtgcacggcaaaaggcggaatgggtgaatgacggcgtgactgcacagtcagtatccggatcatgccaaagcct
aatttaattgttgggaaccatgatgtgtgctgctttggggatctgctgcaacgtfgcgggtatgctgcaccagaacaaaccgcaactactgcagcg
tcaataaaggcgatgtcttctttagcagcgtatataccggcccaattaccctgtattaccgggtgaagaattggcgatcagggtgacggttctgtaaa
gtaaatcaagaagattgtgcgttattgtttgttgatgaccacgtggcgccgaccagctgcgaagattgatggctgacggcgtcactgaatg
cacagcagcttgaactcaagatatagtcttcttattgatgacattatgacgaacaactcgtggtatcacagaagggaacgtaactaattgatgagc
gacagagaactatgtagaccataaacggcagacgaatgaagccctgttgcactgtgagtgactgataacggcgaggtcagtcacccit
gaaggcgaaggcgaatgggttcaacaggtgtgctgattgattgttgaacgaacgagcgtttttgcccataaattgggaatgacattccattac
ggcgtttggcgacagattctccaaagttgacacgtccgacagcgggtgtgagtgccgaactcgtgctcgtgatacgtatgtaggtgaagg
gatcatggcccaatgtgatacccaaccgttggaaggcaccggctcgggtagcagaacacttgcagtggttggcgatgttggcgatgtcgttggga
agcaaaaggcgacgctgcgtatcaatacaaaaggcagacaaatggcagcaacttgatatacagtggtgtgcgatgaaaggcggcgctac
aagatgcaatacggccacgaagattggagccacagtttactgacagcggtatggcattgaaaggcgggtaccgaaagctgctcatagcgggt
gtgctacggttaagaaccggcgtagcgttggcggaaatccggtaagtgtgtgtgagcgttaacattcagtgatcttggcgagccggagcaaatc
atgtgtcttaagtgctagtaa

SEQ ID NO: 202

Met Thr Ala Lys Ala Asp Asp Leu Arg Ile Tyr Gln Ile Met Val Glu Ser Phe Val Asp Gly Asp Lys
Gln Val Gly His Gly Thr Gly Tyr Gly Thr Ser His His Lys Gly Asp Leu Gln Gly Ile Ile Asp Ser
Leu Asp Tyr Ile Gln Ser Leu Gly Val Asn Ala Ile Trp Leu Thr Pro Ile Phe Glu Ser Ile Pro Val Glu
Gly Gln Asp His Thr Ala Asp Arg Leu Asp Ala Thr Gly Tyr Phe Ala Ser Asp Tyr Phe Lys Ile Asp
Pro Arg Phe Gly Thr Leu Glu Gln Ala Arg Glu Leu Val Glu Lys Ala His Lys Gly Leu Tyr Val
Phe Phe Asp Gly Val Phe Gly His His Lys Gly Asn Val Val Pro Ser Pro Gln Gly Arg Leu Pro Val
Gly Glu Asn Asn Pro Val Ser Tyr Pro Glu Ser Leu Ala Phe Tyr Glu Glu Val Ala Ser Tyr Trp Val
Lys Glu Leu Lys Ile Asp Gly Trp Arg Leu Asp Gln Val Thr Glu Val Pro Thr Asp Thr Lys Ala
Ile Arg Gln Ser Val Asp Glu Ala Ser Gln Ser Val Thr Tyr Val Asn Asn Lys Gly Glu Thr Val His
Pro Leu Gly Tyr Met Val Ala Glu Ile Trp Asn Asn Glu Arg Tyr Ile Thr Glu Thr Gly Tyr Lys
Glu Gly Asp Pro Ala Leu Cys Ser Ala Phe Asp Gly Phe Pro Met Arg Phe Arg Val Val Glu Thr Phe Ala
Val Asn Glu Ser Gly Val Ser Arg Lys Gly Gly Glu Trp Leu Asn Asp Gly Met Ser Leu His Ser Gln
Tyr Pro Asp His Ala Lys Pro Asn Leu Met Leu Gly Asn His Asp Val Val Arg Phe Gly Asp Leu
Leu Gln Arg Gly Gly Ile Ala Ser Pro Glu Gln Pro Gln Tyr Trp Gln Arg His Lys Ala Ala Met Ser
Phe Leu Ala Ala Tyr Thr Gly Pro Ile Thr Leu Tyr Tyr Gly Glu Glu Ile Gly Asp Gln Val Asp Gly
Phe Ala Lys Lys Ile Lys Glu Asp Cys Ala Val Ile Gly Leu Cys Asp Asp His Val Ala Arg Thr Ser
Ala Lys Ile Asp Gly Val Thr Ala Ser Leu Asn Ala Gln Gln Ser Glu Leu Lys Val Tyr Val Ser Ser
Leu Met Thr Leu Arg Gln Thr Lys Pro Ala Leu Ser Gln Gly Glu Arg Thr Asn Val Met Ala Thr Glu

Figure 16 (cont.)

Thr Val Tyr Val Asp His Lys Gln Ala Asp Asn Glu Ala Leu Leu Tyr Met Val Ser Thr Thr Asp Asn
Ala Glu Ser Val Thr Leu Lys Gly Lys Ala Ile Gly Ser Gln Gly Val Leu Ile Asp Leu Leu Thr Asn
Glu Arg Phe Met Pro Asn Asn Gly Glu Tyr Ala Ile Pro Leu Thr Gly Phe Gly Ala Arg Phe Leu Lys
Ile Asp Thr Pro Thr Ala Ala Gly Val Met Ala Gln Ser Ala Ala Ser Val Ser Leu Val Gly Glu Gly Ile
Met Ala Gln Cys Asp Thr Pro Thr Val Glu Gly Thr Gly Pro Val Ala Glu Thr Leu Tyr Val Val Gly
Asp Phe Ala Asp Ala Gly Trp Lys Gln Lys Pro Gln Arg Ala Tyr Gln Tyr Lys Gly Lys His Asn Gly
Ser Asn Leu Tyr Gln Val Val Asp Glu Lys Ala Gly Ala Tyr Lys Met Gln Tyr Ala Thr Lys Asp
Trp Ser Pro Gln Phe Thr Ala Asp Gly Met Ala Leu Lys Pro Gly Thr Ala Lys Ser Leu Ile Ala Gly
Gly Tyr Gly Lys Asp Thr Ala Val Thr Leu Pro Glu Ser Gly Lys Tyr Val Trp Ser Leu Thr Phe Ser
Asp Leu Gly Glu Pro Glu Gln Ile

SEQ ID NO: 203

atgaagatgaagtcctggcggtgtttagtgtagtgcagtcggccatggctgtggcctcttcggcagccaatgcgggtgtcagtggtcacctgtt
ccagtggaaagtacaaatgacatcgccaacgagatgcgaaagggtgtcgtcggccaaagggtatgaagcagtgcatgacacgccgctgtgaa
cactgcgaaggctctcctgtgtgggtgtctctacgcccgtcagctacaagaacttcacttctctggcgtgaacgaggccgaagctcaaaagca
tgatcgcccgttgcaaggccgcgggggtcaagatttacgccgatgcgggtattcaacacagctgtggtgttgatcaggcgtcggttacagtggtga
gcagctacaatgcggcagcttcacgtatccccatttggtcaacagatttctcatcgcgtggagcctaccacatgtccgacgcgaacaa
tgtgcaaaacggctccctgtcgtgggtgcgggagctgcgtatgcaggtacggctgcgtccctacatgtggccacatatgaagacctgagt
ggctgggggtgtgcaggttttctgtctgatgcagcaaaacatatagcgttgccgactctcggccatcgtcagcaaggccggccaatctttgt
ctactcggaggtgattgtggtccacgggtgaaccaatccagccggcggaatataccggcattgtgcgtgacgaatttaataacggacgcga
tctggccctcaactccaaggcgacgatcaagaatctcaagagcatggcgagagctgggtctgtctgctgaacaaaggctgaagctttgtg
gtcaacatgacgttcgtgcgggacatgcgggtgcgtgtatgctgacactacaaggatgtgcctctacatgtggccacacatctcatgtgtg
gccttggccctatggcgtatccccaggatgtatgcgggtatgttctggcacaatacagatattgtggccgagcgtacccctgttcttcc
ggctctagctggaaactgcgaacacgtgcgaacatcgcgaacatcggctctgttccacaatgcggcccaaggcacgttcacgtaccaactg
gtgggataatgttaataacagacgtcccttgtcgtcggcgcccaaggcccttgtgtgatcaacaatgaatcttccacttgagcaagaagcgtgc
agacgggtctgccagccggggagtgatgcacattctggccgggtgatgcctgtgcagcgccagcaccatcaaggtggtgatccagcggtat
ggccaccttcaacgtggcagggtgaaggcgccagcgatccataatgccaaagccgatagcaccagcagtggaagtcagcgtcttct
ctgctcttctctctgccaccagtaacaaatttgcagcatgaatctcggggcaccacaatgtgcggcgccagcaccgccatgacatgga
tgcccaaccgtctgtcgtcggcggtatgtcactttaccggggcgccggatgccaatgtgtcccgcttcaagtttgatgtctatgcaactgt
acaagagatgtatggcgatacacaagccgatggcaatggccgacaaggcagcgcccaaggacatctatttcaatgtgtgtggcaagtatgtct
tcgtcaaggagagcgacatgagctacacctgaccacgtctccgaactacggcaccgggtggcgcccatcaccccaagacactctcgt
caagctgggtactcagtggtgttcgatgctccgcgcacacgatgatgtgggtgtcactgcgtacagctgttaccgggtggcagtgccaa
accgaactgtgtctgttgatgctctgggtacaaagacattaccgtgacagtgcccgatgcccgatgcttaccctccagcttccagctggtgga
tcacgtcaccgatggcagcgtgtggttatataacagcaactttgcagcctgaacttctgtgacctcccaacagtggtggcgccgagccatga
cgtgtgtggcagaacaacactgggaggcacaaggctcaacttcgatgtgcagccaatcagcttcaagcttcaatgaatggtgactggagc
cagaactatgtgatgacaacaagatgggggtggccgaactaccgttgcgcatattacacactgtgacccgggtcaatataaggtgcaattta
acagctccactttgaagtacacccgtaccaagctgcgccgatagcgcgccacagctatagcgcgaacttgcgaacgtctactctcgtggca
ccccgaacagctggggcaccaccgccatgaagctgtgtgccaataacagctgacgagccgaggtgacacttaccggcgaaggcagtgatgcca
ctgtgtgcccaacgcttcaagttcagctgaagggtgacttggagccgaactacgttgacagcaacatggacgggactgccgaagcagactg
ttgcgataccacagctcgggtggcgccacttatctgtgtgaccttaatgacagcacactgaataacacccctgaccgccaataa

SEQ ID NO: 204

Met Lys Met Lys Ser Arg Ala Trp Leu Leu Gly Ser Ala Val Ala Met Ala Leu Ala Ser Ser Ala Ala
Asn Ala Gly Val Met Val His Leu Phe Gln Trp Lys Tyr Asn Asp Ile Ala Asn Gln Cys Gln Lys Val
Leu Gly Pro Lys Gly Tyr Glu Ala Val Gln Ile Thr Pro Pro Ala Glu His Leu Gln Gly Ser Ser Trp
Trp Val Val Tyr Gln Pro Val Ser Tyr Lys Asn Phe Thr Ser Leu Gly Gly Asn Glu Ala Glu Leu Lys
Ser Met Ile Ala Arg Cys Lys Ala Ala Gly Val Lys Ile Tyr Ala Asp Ala Val Phe Asn Gln Leu Ala
Gly Gly Ser Gly Val Gly Thr Gly Ser Ser Tyr Asn Ala Gly Ser Phe Ser Thr Pro Gln Phe Gly
Tyr Asn Asp Phe His His Ala Gly Ser Leu Thr Asn Tyr Ala Asp Arg Asn Asn Val Gln Asn Gly
Ala Leu Leu Gly Leu Pro Asp Leu Asp Thr Gly Ser Ala Tyr Val Gln Asp Gln Leu Ala Thr Tyr Met

Figure 16 (cont.)

Lys Thr Leu Ser Gly Trp Gly Val Ala Gly Phe Arg Leu Asp Ala Ala Lys His Met Ser Val Ala Asp
 Leu Ser Ala Ile Val Ser Lys Ala Gly Asn Pro Phe Val Tyr Ser Glu Val Ile Gly Ala Thr Gly Glu Pro
 Ile Gln Pro Gly Glu Tyr Thr Gly Ile Gly Ala Val Thr Glu Phe Lys Tyr Gly Thr Asp Leu Ala Ser
 Asn Phe Lys Gly Gln Ile Lys Asn Leu Lys Ser Met Gly Glu Ser Trp Gly Leu Ala Ser Asn Lys
 Ala Glu Val Phe Val Val Asn His Asp Arg Glu Arg Gly His Gly Gly Gly Met Leu Thr Tyr Lys
 Asp Gly Ala Leu Tyr Asn Leu Ala Asn Ile Phe Met Leu Ala Trp Pro Tyr Gly Ala Tyr Pro Gln Val
 Met Ser Gly Tyr Asp Phe Gly Thr Asn Thr Asp Ile Gly Gly Pro Ser Ala Thr Pro Cys Ser Ser Gly
 Ser Ser Trp Asn Cys Glu His Arg Trp Ser Asn Ile Ala Asn Met Val Ser Phe His Asn Ala Ala Gln
 Gly Thr Ser Met Thr Asn Trp Trp Asp Asn Gly Asn Asn Gln Ile Ala Phe Gly Arg Gly Ala Lys Ala
 Phe Val Val Ile Asn Asn Glu Ser Ser Thr Leu Ser Lys Ser Leu Gln Thr Gly Leu Pro Ala Gly Glu
 Tyr Cys Asn Ile Leu Ala Gly Asp Ala Leu Cys Ser Gly Ser Thr Ile Lys Val Asp Ala Ser Gly Met
 Ala Thr Phe Asn Val Ala Gly Met Lys Ala Ala Ile His Ile Asn Ala Lys Pro Asp Ser Thr Ser
 Ser Gly Ser Ser Gly Ser Ser Ser Ser Ala Thr Ser Asn Lys Phe Ala Ser Met Asn Leu
 Arg Gly Thr Asn Asn Gly Trp Ala Ser Thr Ala Met Thr Val Asp Ala Asn Arg Val Trp Ser Ala Asp
 Val Thr Phe Thr Gly Ala Ala Asp Ala Asn Gly Ala Gln Arg Phe Lys Phe Asp Val Tyr Gly Asn Trp
 Thr Glu Ser Tyr Gly Asp Thr Gln Ala Asp Gly Ile Ala Asp Lys Gly Ser Ala Lys Asp Ile Tyr Phe
 Asn Gly Val Gly Lys Tyr Arg Val Ser Leu Lys Glu Ser Asp Met Ser Tyr Thr Leu Thr Gln Leu Ser
 Ser Asn Gln Ala Pro Val Ala Ala Ile Thr Pro Lys Thr Leu Ser Val Lys Leu Gly Asp Ser Val Val
 Phe Asp Ala Ser Gly Ser Thr Asp Asp Val Gly Val Thr Gly Tyr Ser Trp Ser Thr Gly Gly Ser Ala
 Lys Thr Glu Thr Val Leu Phe Asp Ala Leu Gly Thr Lys Thr Ile Thr Val Thr Val Ala Asp Ala Asp
 Gly Leu Thr Ser Lys Ala Ser Ala Thr Val Thr Val Thr Asp Gly Ser Val Ala Tyr Asn Ser Asn Phe
 Ala Ser Leu Asn Phe Arg Gly Thr Pro Asn Ser Trp Gly Ala Ala Ala Met Thr Leu Val Ala Asp Asn
 Thr Trp Glu Ala Thr Val Asn Phe Asp Gly Gln Ala Asn Gln Arg Phe Lys Phe Asp Ile Lys Gly Asp
 Trp Ser Gln Asn Tyr Gly Asp Ser Asn Lys Asp Gly Val Ala Glu Arg Thr Gly Ala Asp Ile Tyr Thr
 Thr Val Thr Gly Gln Tyr Lys Val Gln Phe Asn Asp Ser Thr Leu Lys Tyr Thr Leu Thr Lys Leu Ala
 Asp Ser Ser Ala Thr Ser Tyr Ser Ala Asn Phe Ala Ser Leu Tyr Leu Arg Gly Thr Pro Asn Ser Trp
 Gly Thr Thr Ala Met Lys Leu Val Ala Asn Asn Ser Trp Gln Ala Glu Val Thr Phe Thr Gly Lys Gly
 Asp Ala Thr Gly Ala Gln Arg Phe Lys Phe Asp Val Lys Gly Asp Trp Ser Gln Asn Tyr Gly Asp Ser
 Asn Met Asp Gly Thr Ala Glu Arg Thr Gly Gly Asp Ile Thr Ser Ala Val Val Gly Thr Tyr Leu Val
 Thr Phe Asn Asp Ser Thr Leu Lys Tyr Thr Leu Thr Ala Lys

SEQ ID NO: 205

atgtaccggttaaccattattttgatatgagtagtattgttagcttctgagctccaaagaaaaaacaccgaaccgtcaaccctcaacaa
 tgcgaaaaacccctttgttggaggctgcgaatgtatatattttgttaactgacgcttttaacacggtaaccaacaaatgacataatfttaaatg
 gactaaagaatcaggaataactccgcgaattttatggaggcgcatatcaaggcgatcacccaaaaataatagggggtattttagtaaacataggc
 gtaaatgccaatcggtctaccgggtgttggaacaaatcatagcagtggtgatgaaggtagccgaataacctatgcttcattgctgattgggcca
 aagattggacacaaacttagaccaaaatttggcacaagaagacctgcccgaactggtggcaactgccatgccaaaggcatcagggaactttta
 gatgttggaataaaccacaccggcccggttaaccgaccaagaccgggtttggggagaagattgggtactgacagcccgagtgtaacctatga
 taattcaccaatcacacaggttgacgcgtgtagcccaattacctgatactacagaagaatgaataatgtgcttcaacacattttgttga
 taatgtgaagccgaaggcagattagacgaagaactaaagaacttgacgattttttccgcacagggccaccacgcgcaccgccctttac
 attatlaaatggcttaccgattacatccgagaatttggggtgatgtggtttagggtgataccgtaaaacataccgaagaacagggttggggcgag
 ttgtatgatgaacggcgttaattgctttgccaataataaaagccaaaccagacaaaggatattggacgataatgaattttatgttagggcgaagtg
 caactacggtatttccggcggaaggcttctatgatttcggcgataaaaagggtggactatttttccgcacagggccaccacgcgcaccgccctttac
 aaatatgatgcgaattttacatcgatacatttttgggaagtacgatacccttttgcataccaaacttaagcgagaagtgctcaactacctctca
 tctcagcagcagtggaagtcctcatttgataaaatggcgcaaaaccatagcagtcggcctacaaaattactgctcactcggggcgccgcccattat
 tacggtgacgaacccgcgaaggccttaacatagaaggcgacagggagatgctacgcttgcgtgttatgaattgggaagagctcgcgaaga
 gaccttgcgaagcaaaaaatcttaccagattgcaaaaactggcgagtttagcgaacacaccccgagttgtgcccgggaagcacaacaa
 ccttggcaaaaagccgttttaccctttagcaggggtttacaaaaaatgtgtttatgacaaaagtgttgtagcattagatgcccttaagcccaaa
 aacaaattaccggttaattgtgtttttagtgacgggtacaaaactgtatagtcctattacggcgaagaacacctgatttaaaatggtatgctttac
 ctctgaatttgattgtgttttgtagcaacaaaataa

Figure 16 (cont.)

SEQ ID NO: 206

Met Tyr Arg Val Ile Pro Ile Ile Leu Ile Met Ser Met Ile Val Ala Cys Glu Ser Pro Lys Lys Lys Thr
Thr Glu Thr Ala Gln Pro Ser Thr Asn Ala Glu Lys Pro Phe Val Thr Ala Ala Asn Val Tyr Phe
Leu Leu Thr Asp Arg Phe Asn Asn Gly Asn Pro Asn Asn Asp Ile Asn Phe Asn Arg Thr Lys Glu
Ser Gly Lys Leu Arg Asn Phe Met Gly Gly Asp Ile Lys Gly Ile Thr Gln Lys Ile Asn Glu Gly Tyr
Phe Ser Lys Leu Val Asn Ala Ile Trp Leu Thr Pro Val Val Glu Gln Ile His Gly Ser Val Asp
Glu Gly Thr Gly Asn Thr Tyr Ala Phe His Gly Tyr Trp Ala Lys Asp Trp Thr Asn Leu Asp Pro Asn
Phe Gly Thr Lys Glu Asp Leu Ala Glu Leu Val Ala Thr Ala His Ala Lys Gly Ile Arg Ile Leu Leu
Asp Val Val Ile Asn His Thr Gly Pro Val Thr Asp Gln Asp Pro Val Trp Gly Glu Asp Trp Val Arg
Thr Gly Pro Gln Cys Thr Tyr Asp Asn Tyr Thr Asn Thr Thr Ser Cys Thr Leu Val Ala Asn Leu Pro
Asp Ile Leu Thr Glu Ser Asn Glu Asn Val Ala Leu Pro Thr Phe Leu Leu Asp Lys Trp Lys Ala Glu
Gly Arg Leu Glu Gln Glu Leu Lys Glu Leu Asp Asp Phe Phe Ser Arg Thr Gly His Pro Arg Ala Pro
Arg Phe Tyr Ile Ile Lys Trp Leu Thr Asp Tyr Ile Arg Glu Phe Gly Val Asp Gly Phe Arg Val Asp
Thr Val Lys His Thr Glu Glu Thr Val Trp Ala Glu Leu Tyr Asp Glu Ala Val Ile Ala Phe Ala Glu
Tyr Lys Lys Ala Asn Pro Asp Lys Val Leu Asp Asp Asn Glu Phe Tyr Met Val Gly Glu Val Tyr
Asn Tyr Gly Ile Ser Gly Gly Arg Phe Tyr Asp Phe Gly Asp Lys Lys Val Asp Tyr Phe Asp His Gly
Phe Lys Ser Leu Ile Asn Phe Glu Met Lys Tyr Asp Ala Asn Phe Thr Tyr Asp Thr Leu Phe Arg Lys
Tyr Asp Thr Leu Leu His Thr Lys Leu Lys Gly Arg Ser Val Leu Asn Tyr Leu Ser Ser His Asp Asp
Gly Ser Pro Phe Asp Lys Met Arg Gln Lys Pro Tyr Glu Ser Ala Thr Lys Leu Leu Thr Pro Gly
Ala Ser Gln Ile Tyr Gly Asp Glu Thr Ala Arg Ser Leu Asn Ile Glu Gly Ala Gln Gly Asp Ala
Thr Leu Arg Ser Phe Met Asn Trp Glu Glu Leu Ala Glu Asp Pro Ala Lys Gln Lys Ile Leu Gln His
Trp Gln Lys Leu Gly Ser Phe Arg Asn Asn His Pro Ala Val Gly Ala Gly Arg His Lys Thr Leu Gly
Lys Lys Pro Phe Tyr Thr Phe Ser Arg Val Tyr Gln Lys Asn Gly Phe Ile Asp Lys Val Val Val Ala
Leu Asp Ala Pro Lys Gly Gln Lys Gln Ile Thr Val Asn Gly Val Phe Asp Asp Gly Thr Lys Leu Val
Asp Ala Tyr Ser Gly Lys Glu Thr Ser Val Lys Asn Gly Ile Val Ser Leu Ser Ser Glu Phe Asp Ile
Val Leu Leu Glu Gln Lys

SEQ ID NO: 207

ctgtcgaactgacgcttctgtttgggctcgagactgactctcagcccccgcagtagctccagacggagtagccgaatagccgttggccgg
gtcgtgggacggggccctcgaggtatcacccaccgccgttgatgccaccactgttccaccagccgccgaggttgccggtgtactctgtgatgc
acgtctcccggaacttcggaactgtagaccacccttccgcttcttgtagggcgaggttgatgtatgtattacatcccgctgtcttcgtacgct
ttctcacgaatatcagctcgtctgtctgtctgtagtaaacacgctcagtgctctctccgcccgaggtgtcatgtatccagatgaggttctgagcttatcct
ttgttgagccactctctgtagtcgcggtagataattgtcgctggccctcgtaggtgagatgaacgctgtaggctgtgatactgttccagattat
cgggtctgcgttgttgcaacgaaggttaacggccttaaacgggctcgccgtgacgactgtgccccctgttctgagggccctgacgagtgccgggaa
tgtcttgttgcgaaggccgctgccatcttgtagtagagcgggaagctgaagaccttgcgcgcctcagtaggcccaggttgagagtgatc
aacgttggctccagctactcggccacggccagccgcccccacagttgagccagctcttgagacccacgctccgtggcccttccagtagtc
aaagcggccagggcatcaacgccgatgctcttaggttagggcgctgtagctctctcgtcgtccagagccagctgctgtgctccagctctctgtg
ggctatgtctgtggaagcctcaaatgtgcccctgtcacagcacttgacctgtgggggtggaagctgagagtgatggcagatatttggccgag
ccacctttgagaagctcgtccagggtgtagtcctcccaacgaacgggttcactcagagctctccgctcgtcggtgtgttatgacgatgtccgctatg
acctttatgccgtgagcatggcgctgtttatcatgtttacagagcctcgtctgtgagccaaagcgcgtcttaccagttcccttctgtgctactacc
gagggtcaagaagtcgtaggggtcgtagcccatgaataggcggccgccatgcccttgcctcgggggaatccaaatggcggatattcccg
cctctgaccctccgtatctgtctctgtatgggtgtccaccagatctccaccttgggacgtccagtagaaggcctgcattataacgccgcct
cttcagctcggagtagtctggccataagttacccttactagtatgattaaaa

SEQ ID NO: 208

Leu Ser Thr Glu Pro Phe Val Leu Gly Ser Arg Leu Thr Leu Ser Pro Arg Ser Ser Ser Arg Arg
Ser Ser Arg Asn Ser Arg Trp Pro Gly Arg Gly Gln Gly Pro Arg Gly Thr Pro Thr Arg Leu Ser Pro
Pro Thr Cys Pro Pro Ser Arg Arg Gly Cys Arg Cys Thr Arg Gly Cys Thr Leu Pro Arg Thr Ser Glu
Arg Arg Pro Thr Phe Arg Leu Cys Leu Arg Arg Gly Cys Met Leu Ser Val Pro Ala Cys Phe Arg

Figure 16 (cont.)

Ser Arg Phe Ser Arg Ile Ser Ala Arg Arg Cys Arg Ser Lys Arg Arg Gln Cys Phe Leu Arg Pro Gly
Cys His Val Ser Arg Gly Ser Ala Tyr Pro Cys Ala Thr Pro Arg Ser Arg Gly Arg Ile Leu Ser Ala
Gly Pro Arg Arg Gly Thr Arg Arg Leu Asp Thr Cys Ser Arg Leu Tyr Arg Cys Arg Gly Leu Gln
Arg Arg Leu Arg Pro Thr Gly Arg Pro Gly Arg Leu Cys Pro Arg Ser Gly Arg Val Arg Gln
Cys Ser Cys Cys Gln Arg Pro Arg Pro Ser Cys Ser Arg Ala Gly Ser Arg Arg Pro Trp Arg Arg Ser
Ser Arg Pro Ser Gly Val His Gln Arg Trp Cys Pro Ser Thr Arg Gln Arg Pro Ser Arg Pro Thr Ser
Ala Ser Pro Arg Pro Thr Leu Arg Gly Pro Ser Arg Ser Gln Ser Ala His Gln Arg Cys Arg Cys Ser
Leu Gly Arg Arg Arg Ser Ser His Arg Ser Pro Arg Ala Ser Ala Gly Pro Ser Ser Ser Arg Gly Leu
Cys Leu Gly Ser Leu Gln Met Cys Pro Arg His Ser Thr Pro Arg Trp Gly Gly Ser Arg Gly Ser Trp
Gln Tyr Ile Cys Pro Arg Pro Leu Arg Ser Pro Arg Cys Ser Pro Gln Arg Thr Gly Ser Thr
Arg Gly Leu Arg Leu Arg Gly Gly Leu Arg Cys Pro Leu Pro Leu Cys Arg Arg His Gly Pro Cys
Leu Ser Cys Ser Arg Ala Pro Ala Trp Ser Gln Ser Ala Ser Leu Pro Phe Pro Ser Gly Arg Thr His
Arg Gly Gln Arg Ser Arg Arg Gly Arg Ser Pro Ser Asn Arg Arg Arg Pro Cys Pro Cys Ser Pro Gly
Glu Ser Lys Trp Arg Ile Phe Pro Pro Arg Thr Thr Pro Val Ser Cys Ser Trp Cys Pro Thr Arg Phe
Leu His Leu Gly Arg Pro Ser Arg Arg Pro Ala Leu Arg Arg Leu Pro Ala Arg Ser Thr Trp Pro
Val Thr Ser Tyr Ile Lys

SEQ ID NO: 209

atgattcagcccatgcactctcgggaacaggcctgccgtctcattccggcactgatcatgacatttgactggcactgccgttgcaaaattgtgcg
atgtcacccctgcgatgtttcaactggagcatgctgcgtatgcgtatgcggcgcttgacatgcctgcagcagggtacatgctgcgtgtggtgcgc
cgcaacttcagtcgaaggcagcgctgggtggcgataccagcccgagatctcgccttatgacccatcgctgggcaatacacatgacttc
gtcaacatgatgatgcctcctgatgatgtgtgtggcggtgtacgcgcgacatcgtgtcaacacatggtccaatgaggtgcacaaaggcctga
cctgaactacccttggtcagcagctgtgacgaatatgcttcgcgatcccggtcatttcaggggcttgaggtgttggttaactgagcttcaattct
gtcggaacatgatttcggaccccgccagtcagcattcaggattacagcgaatgtgtttcaggctcagaactggcgctgtgcggaccgccggcgaacc
cgggcctgccgacctggctgcgaatgactgggtgatctcacaacggcgcagatctcgaagccatcaaggcctgggtgtgctgactatgcg
catgcagcgggtcgaagcatcggccatgacccatcaatgccttctcaccgccagatccggctgggctgcatgtgtttggcgaagtcatccac
tcgggtggggctggtgatacatctacgaccgttttcggcccttaccctggcacaaggcaccatggtgcctatgactttccattgtttgaaaccatt
cgccgtgttctcggctcgggtgcgacgaatgagtgactgtgctgatctcgtcctacggctcagggccctgccaccggagccgccatcactctgc
atcacgcacgataatccgaacatgacggtattcgtctaccagatactcgcacccgctgatgaatcactgcctcagcctcatattctggccgcgatg
ggcggtgtcccgcttctgtattccgacaacatgaaaggcggcgatggccgctggatcgtgacgtcctggcgaactcggatctgttgcgaatgtgcggct
tccacaatgcagtcacgggtcaggacatggcgtgtgttcacatgacgactgcacactcgtgtttcggcgccgagcctcgggattgtgcgcatca
acaagtgcggcatgactcactgcctgggtcaacatgaaccagagcgtactgtgtgtgtacgcggactacacagagcgtgtcgcagacgaacag
cgtgtgcaacatcagtcactcgtgcacgattcatcttccgcccgccaggcagcgcctgtgtgtgcga

SEQ ID NO: 210

MIQPMHSRSEQACRLIPALIMTFALALPLQIRADVTLHAFNWSYADVADRAVDIAAAGYSA
VLVAPLRSSEGTAWARYQPDRLRIDHPLGNTHDFVNMIADLDVGVGVYADIVLNHM
ANEAARQRPDNLNYPGQAVLDFEYASDPGHFEGLRFLFNLNLFSEHDFGPAQCIQDYSDVF
QVQNWRLCGPPDPGLPDLVANDWVISQQRQYLEAIKALGVAGMRIDA VKHMPMHSINA
VLTPERSGLHVFGEVITSSGAGDTSYDRFLAPYLAQSDHGYADFPLFETIRRAFGFSGSMS
ELVDPAAYGQALPDRATFVITHIDPNNNDGFRYQILDVDESLAYAYILGRDGGVPLLYSD
NNESGDGRWDPDLVAMVGFHNAVHGDMAVLSHDDCHLLFRRGS LGIVGINKC
GHALSSWVNMNQSVLWVYADYTDVLDSNSVNVQSSWHDFLRAQRLWLR

SEQ ID NO: 211

GTGTTTCGTTCTGACACAGTTTCGCGTACCTGCATGTATGGTGCCTGCGTAAATGCCTA
CCAACCCGATCGGGGTGTTTACTGGAGTACGGTGCAGGACATGCAACTTAAAAAAGCAT
GCTCATCGCCAGGGCGCTTGTTCATCTGTGACGCGGTGCCTGTGCGCTGAAAATCCAGGC
AGACCCATAAAAAACAACAACCAACCGATAACAACGACCCAAGCCTTCTAAGAGGAG
AAAACGGGATGGCTTTTAACTACGCAAAAAGGCGCTCGTTGGCCTGTTCACGGCCGG

Figure 16 (cont.)

CGCAATGGTATATGCCGGTGCAGCGGCGAGTGGTGAAATCATTTGTCAGGGCTTCCAC
TGGCACTCCAAGTGGGGCGGCAACAATCAGGGTTGGTGGCAGGTGATGGAAAGGTCAG
GCCAACACCATCGCCAACGCCGGCTTTACGCACGTGTGGTTCGCCCGGTTCCATAACT
CGGCCGATGCCGAGGGTTACCTACCCCGCGAGCTGAACAACCTCAACTCCAGCTATGG
CTCCGAAGCACAGCTGCGCAGCGCCATCCAGGCACTGAACAATCGCGGCGTGCATGCG
ATTGCCGATGTGGTTCATGAACCACCGGGTGGGCTGCTCTGGCTGGGCGGATTCTGTGA
ACCCGGACTGGCCGACCTGGTACATCGTCGCCAATGATTCTGGCCCGGTGGCCCGAA
AAGCCAGAAGTGGGACACGGGTGAGACGTACCACGCCGCCGTGACCTCGATCACGC
CAATCCGCAGGTGCGCAACGATATCTCGCACTACCTGAACAGCCGCCTCAAGGACGTC
GGCTTCTCCGGCTGGCGCTGGGACTATGCCAAGGGTTCTGGCCCGGCTATGTCGGCG
AGTACAACCTGGAACACCAACCCGAACTTCTGTGTGGGTGAGGTGTGGGACGATCTCGA
CCCCAACAAATCCCAACCCGCACCGCCAGCAACTGGTGGACTGGGTTGATGCTACCGGT
GGCAGTTGTACGTTCTCGACTTCACCACCAAGGGGCTGACGAACCTATGCGCTGCAGC
ATGGCCAGTACTGGCGCCTGCAGGGTGATAATGGTGGCCCGGCTGGCGGCATCGGCTG
GTGGCCGCAACGCATGGTGACCTTCGTCGACAACCATGACACGGGCCCGAGCAATCAC
TGTGGTGACGGCCAGAACCTCTGGCCCGTGCCCTGTGACAAGGTATGAGAGGCGTATG
CCTACATCTGACCCATCCGGGGCGTGCCGTGCTGACTGGACGCACTTCTTCAACTGG
AATCTTGGTAGCGGAGATCAGCCAGTTGATGCAGATCCGCAAGAACCAGGGCGTGCACT
CCGGTTCGACGCTGTGGATCGCCGAGGCCCGTACGGCCTGTACGGCCCTATATCAA
CGGTAATGTGGCGATGAAGATGGGCTGGGATAACTGGAGCCCGGCTGGGGCTGGTC
GCTGGCGGCTCCGGTAACAACCTGGGCCGTCTGGACACGCTGA

SEQ ID NO: 212

VFRSDTVSRCTCMYGALRNAYQPDRVFTGVTVRTCNLKKHAHRQALLFIVTRCLCLKSRQT
HKNNNKPIITNDPSLLRGENGMAFKLRKKALVGLFTAGAMVYAGAAASGEIILQGFHWS
KWGGNNQGWVQVMEGQANTIANAGFTHVWFPVHNSADAEGYLPRELNNLNSSYGSEA
QLRSAIQALNNRGVHALADVVMNHRVGCSGWADFCNPDPWPTWYIVANDSWPGGPKSQN
WDTGETYHAARDLDHANPQVRNDISHYLSRLKDVGFSGWRWDYAKGFVPGYVGEYN
WNTNPNFCVGEVWDDLDPNPNPHRQQLVDWVDATGGSCHVFDDTTKGLTNYALQHGQ
YWRLOQDNGGPAGGIGWWPQRMVTFVDNHDTPGSNHCGDGQNLWPVPCDKVMEAYA
YILTHPGVPSVYWTHFFNWNLGSEISQLMQIRKNQGVHSGSDVWIAEARHGLYAAAYINGN
VAMKMGWDNWSPGWGWSLAASGNNWAVWTR

10061672-000100